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TRAVELS

IN

VARIOUS COUNTRIES

OF

EUROPE ASIA AND AFRICA

BY

E. D. CLARKE LL.D.

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PART THE THIRD

SCANDINAVIA

VOLUME THE TENTH

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MDCCCXXIV.

LIST
OF
EMBELLISHMENTS AND VIGNETTES
IN VOLUME THE TENTH.

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KIEMI CHURCH.

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Korkila—*Evident change in the manners of the people*—Dianthus superbus—*Descent of a Cataract*—*Vessel of three hundred tons launched*—*Fruit of the* Rubus Arcticus—*Prismatic fracture of* Trap—*Beautiful variety of* Spar—*Fruit of the* Rubus Chamæmorus—*Reception at* Kilpala—*Primeval Plough*—*Wooden Lock and Key*—Tervola—*Midnight Fishery at* Tivan-koski *Cataract*—Alaparkyla—*Rovila*—*Appearance of* Kiemi *Church*—Adelcrantz, *the Peasant Architect*—*Dress of the Fin-*

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CHAP. I.

At its junction with the *Kiemi* river, the *Annis* loses its name; and immediately after passing the point of confluence, we came to one of the principal *Cataracts*, having a Fall more considerable than any we had seen. We stopped to dine at a place called *Korkila*[1]; already observing a great change in the manners of the people. Our rooms at *Korkila* were fitted up with the elegancies of painted tables, and with window-frames; refinements unknown beyond the *Arctic Circle*. We had, moreover, the satisfaction to

Korkila.

Change in the Manners of the People.

(1) *Hermelin's* Map is very erroneous with respect to this part of the country. The *church* which he has placed at *Ravaniemi*, on the *Arctic Circle*, is at *Korkila*, below the confluence of the two rivers, on the *western* shore of the *Kiemi*.

observe, what does not always attend upon an increase of luxury, namely, cleanliness, in its utmost perfection. The house at which we were entertained bears the *Swedish* name of *Gästgifvaregård;* by which word is meant an *Inn:* certain farms being appointed by the Governors of the provinces to serve as *inns,* and to supply *boats,* to *merchants* or other travellers passing up or down the rivers.

The Minister at *Korkila* supplied us with some *tea* and *sugar,* and a little *brandy.* One third of the said *tea* was made up with a mixture of *cloves* and other spices: this mixture, throughout most parts of *Sweden,* was used in preparing an infusion which the inhabitants considered as a sad substitute for their favourite beverage, *coffee;* now universally and rigorously prohibited. Here we saw the sort of palisade, or hedge, stretching across the river, which is so commonly used in all these rivers, as a fence to intercept, and to facilitate the taking of *salmon.* The *Aunis* having now sufficient depth to admit the passage of large craft, we were no longer under the necessity of hiring two boats. In all the forests and fields south of *Korkila* is found that beautiful wild pink, the *Dianthus superbus* of *Linnæus.* Just after leaving the place, as we were walking by the side of the river, we found

Dianthus superbus.

CHAP. I.

this *Dianthus* flourishing in great abundance. The seed-vessels being ripe, we collected some of them, and afterwards sent the seed, in letters, to *England*. In the *Botanic Garden* at *Cambridge*, there still remain many thriving plants, derived from this spot: but their appearance was more beautiful upon the banks of the *Æneis*; because a luxuriant soil, and a longer although not a warmer summer, draws the stems to a preposterous length, without increasing the size of the flowers. *North* of this place, the *Dianthus superbus* is very rare; but the whole way from *Korbila* to *Kiemi* it grows in the greatest profusion; and in some places the ground is entirely covered with it[1].

Descent of a Cataract.

Having to descend a steep and powerful *cataract*, we entered the boat, and were precipitated along with it. Rapid as our progress was, we struck sometimes with violence upon the rocks; whence bounding into the midst of the surge, we took in so much water, that it required every effort to keep us afloat. In the turbulent

(1) It is considered as a rarity by the *Swedish* Botanists; some of whom requested that we would search for it in *Lapland*. It is very rare in *Sweden*; but common in *Finland*. It grows near the *Finnish* Church at *Torneå*; also south of *Kiemi*; in *Ostero-Bothnia*, especially in the vicinity of *Haukebodas*; where we found the finest specimens, although the plants were but thinly scattered; the flowers being larger than any we ever saw elsewhere. In its wild state, towards evening, its fragrance is very great.

scene thus afforded, we saw *wild-ducks* sporting and diving around us, in the very midst of the *cataract*. Those artful birds, whenever they are disturbed in these rivers, generally make for the nearest *cataract;* seemingly conscious, that, by diving into the headlong torrent, they will the more quickly pass with their brood to such a distance from the persons pursuing them as to be removed out of their reach. Below this fall, the *Aunis* was a hundred fathoms wide; deep, rapid, dark, and clear; its shores lofty, and broken by rocks into rugged precipitous cliffs. Among the large stones and loose pebbles lying below these cliffs, the *Epilobium angustifolium*[2], of prodigious height and size, adorned the sides of the river with high mounds of showy, purple flowers: it may be considered as the garland of *Lapland;* often attaining the greatest magnitude, when every other sign of vegetation diminishes. The *Lapps* call it *Almoke*. Among the inhabitants of *Dalecarlia*, this plant is called *Heaven's Grass*[3]: it is the same known in *England* by the name of *Rose-bay Willow-herb*, and it may be found all over *Europe*, from *Lapland* to *Italy;* although it be not very common in *Great Britain*. Just

(2) "Flore valde specioso." *Dillen. Catal. pl. circa Giss.* 131. 1719.

(3) Himmelsgras. *Flora Lapp. Linnæi, p.* 113. *Amst.* 1737.

CHAP. I.

Vessel of three hundred tons launched.

before we came to a place called *Rautio*, we saw, on the *eastern* side of the river, the cradle of a ship of considerable size, that had been newly launched. It was a vessel of 300 tons burden; built by a Lieutenant of the *Swedish* army, and now aground in the midst of the *Kiemi* river, opposite *Kiemi* Church, within a hundred yards of the spot whence it would have had a safe passage to the Gulph of *Bothniâ*. A bolder attempt was perhaps never made, in the history of navigation: it is really astonishing, that a ship of such magnitude should have been conveyed from this spot, where she was launched, over all the shallows, and down all the cataracts, to the place where she so unfortunately struck, when her owners were upon the point of triumphing in their undertaking. They chose, it is true, a season of the year when the river is swoln by floods: but when it is considered, that our little canoe, as it might comparatively be called, was with difficulty impelled along the same passage, and that, notwithstanding all the experience of our pilots, we were often striking against the rocks, it is hard to conceive how a vessel of 300 tons could be kept buoyant in such a channel. The peasants felt a great interest in her fate; and many of them assured us that they did not despair of being able to get

her off in the next spring: their only fear was, that she would not withstand the shocks to which she would be exposed by the breaking up of the ice, when the thaw should commence; as the huge masses rushing towards the Gulph might break her to pieces. However, it was unanimously their intention to make another attempt at getting her afloat. We thought, at all events, the materials would be valuable: but vessels are so cheap in the *north* of the Gulph of *Bothnia*, that when any one of them is condemned, their owners never think of saving the materials. If a ship be worn out, they set her on fire; taking out of her only what little *iron* they can; and very little is used in building them. They are all constructed of deal timber; and of this the King of *Sweden* has enough to supply more navies than all the arsenals of the world will send forth, before the *Millennium*. In the place where this vessel was launched, the *Kiemi* is nearly half an *English* mile wide.

Fruit of the *Rubus Arcticus*.

Here we landed, and found in the woods, near the shore, the dwarf *Arctic raspberry;* bearing the first ripe fruit (*August* 9) we had seen upon this rare plant. The flavour of its berries is finer than that of the *hautboy strawberry*, which perhaps it more resembles than of any other kind of fruit. These berries are of a dark red

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colour, equal in size to those of our common raspberry-trees; but the plant is so diminutive, that an entire tree, with all its branches, leaves, and fruit, was placed within a phial holding about six ounces of *alcohol*, in which state it has been preserved, even with its colours, unaltered[1]; and may be so for any length of time, provided it be kept as free from the access of the external air as if it were hermetically sealed. The smell of the fruit, when fresh gathered, is delicious. The *Rubus Arcticus* and *Rubus Chamæmorus*, according to *Linnæus*, are found only in *Sweden*[2]; and they are not found in the *southern* provinces even of this kingdom. Sometimes a few plants are found in *Dalecarlia*, near to *Fahlun*, and here and there in *Finland*. In *Angermanland*, *Helsingeland*, and all over the two provinces of *Ostero-Bothniå* and *Westero-Bothniå*, it is more abundant. In the northern parts of the Gulph

(1) It is in the possession of the Bishop of *Lincoln*; to whom the Author presented it, after his return to *England*.

(2) But this is not true: the *Rubus Chamæmorus* is found upon our Northern mountains. The *Rubus Arcticus* has also been raised from seed in some of the *Botanic* gardens of this country; and the late Mr. *Greville* succeeded in making it bear fruit in his garden at *Paddington*, by covering it with a bell-glass during the whole of the autumn, winter, and spring, until the beginning of *June*, when the cover was kept off night and day;—thus producing, artificially, an effect similar to the natural habit of the plant; which is always covered by snow until the sudden thaw, caused by a solstitial sun, annually sets it free.

of *Bothniâ*, especially in the neighbourhood of *Torneâ* and *Kiemi*, the fruit of the *Rubus Arcticus* is annually collected, and sent as a conserve to *Stockholm*. It is used in that city as a sauce with meat, and in soup. Casks filled with the fruit of the *Rubus Chamæmorus* are also sent to *Stockholm*, where it is consumed in the same way; also in the making of vinegar, and for various other culinary purposes. In the evening, we arrived at *Ruika*, and slept in great cleanliness and comfort in a farm-house; where, for the first time since our return, we enjoyed the luxury of candles; having found some here, and being much in want of them. From half-past eleven until half-past twelve at n ght, we could not now read or write without them; the evening darkness beginning to appear again: and it was very grateful to our eyes, bringing with it a sensation of rest to which we had long been strangers, owing to the continual sunshine and twilight-glare of the *Lapland* summer nights. We had before used splinters, as torches, in rooms where light was excluded; but this was the first time of our noticing the return of natural darkness.

August 10.—We left *Ruika*; and, at the distance of four *English* miles, descended one of the most powerful *Cataracts* we had yet seen in any of

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these rivers. The banks of the *Kiemi* now appeared thick set with farm-houses: its shores resembled a fine garden, through which the river flows broad and rapid. Several varieties of *Trap* are among the *minerals* which we collected here; some containing *iron* pyrites, and others exhibiting the prismatic fracture by which *Trap* is generally characterized[1]. In many instances, the appearance of the stone, after being broken, was strictly that which it is usual to call *basaltic;* and this appearance was so constant a result of fracture, that the same specimen, broken seven or eight times, regularly exhibited either a *quadrilateral,* a *pentagonal,* or an *hexagonal* surface; and whether with *four, five,* or *six* sides, an angle of 124°, which is that of *Hornblende,* and to which this fracture is due, might be recognised[2]. Between *Ruika* and *Yatila,* at *Narkaus Cataract,* we saw a very extraordinary *stratum,* constituting the bed of the river; but which had been left high and dry by the water, so as to enable us to examine it attentively; and from

Prismatic Fracture of *Trap.*

(1) The specimens are now in the *Woodwardian* Collection at *Cambridge.*

(2) The pillars of the *Giant's Causeway,* and of *Staffa,* are rarely, if ever, destitute of this *angle;* and it is always obvious in their fracture. The fact is, that the chemical constituents of *Hornblende* and *Basalt* are so nearly the same, that the only difference between them consists in the more perfect *crystallization* of the former.

this *stratum* we detached, by means of our hammers, one of the most curious *minerals* we had found in all *Lapland*. It consisted of a mass of broad foliated *calcareous* spar, which we at first mistook for *feldspar*, until we perceived its utter *infusibility* before the *blowpipe*, and its effervescence in acids. It is of a fine flesh-red colour; and its surface, worn by the torrent, had all the appearance of red *feldspar*. Upon being broken, its sparry *rhomboïdal* fracture and inferior hardness ought to have decided its real nature, without further trial; but, like *feldspar*, it was traversed by a vein or layer of *white Quartz*; and a species of reddish *Petrosilex*, in colour and appearance resembling bacon, also existed in the same *stratum*, in a vein about two inches wide. Among the loose detached fragments left by the river, were numerous varieties of *Trap*. At *Yatila*, a peasant had prepared a very singular article of commerce for the ensuing fair at *Kiemi*, which was now near at hand. Having entered his cottage, we found, as it had often happened, that we might take entire possession of it; there not being a living creature to be seen. Upon the floor stood several barrels, containing each from twelve to sixteen gallons of the fruit of the *Rubus Chamæmorus*, the berries having been boiled, in which state they are sent

Beautiful Variety of Spar.

Fruit of the *Rubus Chamæmorus*.

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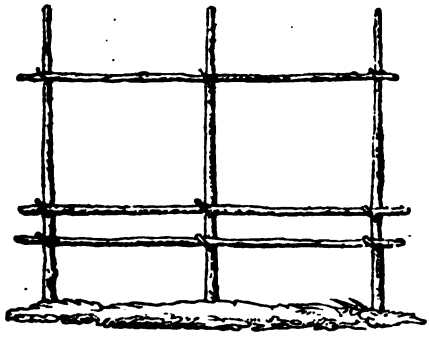
to *Kiemi* for sale to the *Torneå* and *Uleåborg* merchants. Not being able to find either the owner of the cottage, or his wife, or any one of his family, we robbed him of a barrel of his fruit; leaving upon his table three *rix-dollars* (about nine shillings *English*), to pay for our plunder; about double the price he would receive for one of these barrels, after conveying it to *Kiemi*. Our boatmen told us, that the old man and his wife, upon their return, would never believe that any human being had taken away the barrel, and deposited so much money for their fruit. It is the poorest of the peasants who engage in the sale of this fruit; the wealthier farmers, who cultivate land by the sides of the river, being able to employ their time more profitably. All of them engage in the *salmon*-fisheries, which are numerous in this river. When the fish is caught, it is cut in pieces and salted, and afterwards sent down the river in barrels, for the towns situate on the Gulph, and for the supply of *Stockholm*.

We arrived at a large farm at *Kilpala;* the people belonging to it, as usual, being all absent, and employed at a distance from their home, in mowing the long grass by the sides of the rivers and lakes. As soon as it is cut, it is made up into stacks upon the spot where they find it, by

means of a few poles made into a rack, for drying it, in this manner: CHAP. I.



We frequently observed these racks near the river. In this deserted mansion we were compelled to have recourse to our former practice of plunder; and finding good store of rich cream in the dairy, we sate down to it with our barrel of berries, and began to eat our dinner. The servants also took care of themselves. In the midst of our meal, the owner of the cottage, with his wife, children, and grandchildren, made their appearance; the old man laughing heartily to see us so much at our ease; and cracking his jokes upon the thieves who had broken into his wife's dairy, said we must make our peace with her, by giving her, each of us, a salute. He made us heartily welcome; and we became such

Reception at *Kilpola*.

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friends, that we had difficulty in persuading him to take us away in one of his boats. "If we would consent to pass one night beneath his roof," he said, "we should be well treated, and it should not cost us a farthing;" adding, moreover, that "he would transport us and our baggage the whole of the way to *Kiemi* for nothing." This was genuine *Swedish* hospitality; such as no other country, perhaps, in the world, displays with equal sincerity and constancy. We remained with our kind-hearted host as long as it was in our power: but the season was too far advanced to allow of any waste of time; for we had all the mountains of *Norway* to scale, before the passage over the higher alps of that country would be closed by the snow. He shewed to us several implements belonging to his farm.

Primeval Plough.

The sort of plough used in this country, and throughout the whole of *Ostero-Bothniå*, is primeval; and it proves that the soil is light, as it could not be used in deep and heavy land. It is drawn by a single horse, and guided by a peasant. In fact, this plough merely harrows the ground: it called to mind the old *Samnite* plough, as it is still used in the neighbourhood of *Beneventum* in *Italy;* where a peasant, by means of a cord passed over his shoulder, draws the plough which his companion guides. It

only differs from the most antient plough of *Egypt*, as we see it represented upon images of *Osiris*, in having a double instead of a single coulter.

After leaving *Kilpala*, the shore on either side was entirely covered with prismatic *Trap*. To avoid the passage of a *cataract*, we landed, and walked by the side of the river, until we came to a farm, destitute, as before, of its usual inhabitants. Upon the door of their *steam-bath* we found a wooden lock, with a wooden key left in it; the whole being so singularly and ingeniously contrived, that we committed another theft for the benefit of the proprietors, and left a small sum of money for the said lock and key, upon the house table[1]. Afterwards we arrived at *Tervola*, where we hired two boats. To the *south* of this place, the *Kiemi* exhibits one of the liveliest scenes imaginable, by no means destitute of magnificence. Here forests no longer crowd and darken the sides of the river; the land appears like a fine cultivated garden; farms, continually succeeding to each other in an uninterrupted series, cover the shores with cheerful dwellings. There is no scene of this descrip-

Wooden Lock and Key.

Tervola.

(1) This curious *wooden lock* and *key* are now deposited in the Collection made for Lectures upon *Arts* and *Manufactures*, by Professor *Farish*, in the University of *Cambridge*.

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tion upon the *Torneå*. The stir and buzz of industry has succeeded to solitude: again the voice of gladness, and the burst of mirth, are heard in songs and laughter. Banks gently sloping to the wide and fast-flowing river, fringed with shrubs, and decorated by the fields of the husbandman, everywhere manifested a numerous population. Female peasants, in their best apparel, were seen crowding into boats as the evening drew on; or on foot, in large parties, hastening with their swains, along the shore, to the fair at *Kiemi*. About ten o'clock the sun went down; but in such splendour, as it is not easy to describe;—an horizon all of crimson! What is marvellous, and we had remarked the same before, that part of the horizon which was opposite to the point of his setting was tinged with hues as vivid as those which marked the place of his going-down. The river, like a broad mirror, caught the kindling glow; and sky, and land, and water, seemed to be on fire. Long after the sun had set, this appearance continued, with an astonishing effulgence of light and colour, in the *northern* part of the hemisphere. We could no way account for it; but we gazed upon it, with that rapturous, yet awful admiration, which bade the Psalmist exclaim, "THE HEAVENS ARE TELLING THE GLORY OF GOD, AND THE FIRMA-

MENT SHEWETH HIS HANDY-WORK!" Before we arrived at *Alaparkyla*, where we rested during a part of the night, it became necessary to take the boats out of the water, and to haul them over the land for a short distance, owing to a dangerous cataract, called *Tivan-koski*, down which no man ever ventured to descend, excepting one unfortunate individual in a fit of intoxication, and he was drowned. It was midnight when, as we were walking by the side of the river, we came to this *cataract*; where we found thirty or forty peasants fishing in the midst of the torrent. The scene was such as can hardly be conceived. Some of these men were in boats with lighted fires in the prows, to attract the *salmon* for the harpooners; others had kindled fires upon rocks, in the midst of the waters, for the same purpose; others were up to their girdles, in the midst of the turbulent waves, with spoon-nets in their hands, watching the motions of the *salmon* as they endeavoured, with surprising leaps, to ascend the *cataract*: again, others wrapped in bear-skins, with fur caps upon their heads, were employed before large bonfires upon the shore, roasting fish, by holding them upon wooden spits over the glowing embers. We remained with them for some time, regretting only the want of a painter to represent a

Midnight Fishery at *Tivan-koski*.

CHAP. I.

Alaparkyla.

sight so truly extraordinary: at length, subdued by fatigue, we endeavoured to get a few hours rest at *Alaparkyla:* but the boats not being arrived with our beds, we slept upon wooden benches placed against the wall of the room in which we passed the night.

Rovila.

Appearance of *Kiemi* Church.

August 11.—From this place to *Kiemi* the distance is only ten *English* miles and a half. We embarked at eight in the morning, and passed the church and village of *Rovila.* Soon afterwards, we came in sight of *Kiemi* Church; one of those magnificent buildings which the piety of the peasants has induced them to erect in many parts of *Sweden* and *Finland.* It presented a very striking object; having in front a portico of *Doric* pillars, surmounted by a dome, designed in good taste, but ill executed. With the appearance of a stone building, the whole of it is of wood. A circular range of *Ionic* pillars, with arches, support the *cupola;* the general appearance of which is not much improved by the faces of a clumsy clock: but it is still more disfigured by an enormous cock, placed upon the top of the crucifix above a gilded ball; serving as a pinnacle of the whole building. If one of the *Athenian* temples, like the Chapel of *Loretto,* were to take its flight through the air, and the traveller were to find it in the wilds of *America,*

e would not be more surprised than at the anomaly of a stately *Grecian* structure upon the borders of *Lapland*. This church, together with that of *Torneå*, *Skellefteå*, and some others, were built by an architect of the name of *Adelcrantz*, a common peasant of *Finland*, whom we afterwards found upon the spot; and of whom we bought the plan and elevation of *Kiemi* Church; the latter of which has been engraved, upon a reduced scale, as a *Vignette* to this Chapter. *Adelcrantz* is a native of *Nya Carleby* in *Ostero-Bothniâ*. The interior of the building not being quite finished, we found him, the day after our arrival, at work, like a common day-labouring carpenter, in a dark part of the cupola. He told us, that there was at present a rage for building churches among all the natives inhabiting the *northern* shores of the Gulph of *Bothniâ*: that, by an order of Government, if the inhabitants of a particular parish wish to build a church, they are first required to send notice to *Stockholm*, giving an exact account of the sum they can raise for this purpose; when regular plans and architectural designs for the proposed structure are, in consequence, returned to them. This, while it confirms the observations before made[1] respecting the church at *Skellefteå*, will

Adelcrantz, the Peasant Architect.

(1) See Chapter VII. of the former Volume.

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serve to explain the elegance of the churches, in many instances, in the *north* of *Sweden*. We could not call to mind a village in all *Great Britain* with so magnificent a church as this of *Kiemi*, and few of our towns are in this respect so well provided. Of *Sweden* in general it may be said, that, with few exceptions, its towns cannot boast of such stately churches as its villages. Opposite to this church we saw the stranded ship before mentioned, lying upon one of the shallows in the midst of the river.

Dress of the *Finlanders*.

The pure costume of the *Finland* peasants is very elegant: we saw it here generally worn. It consists, among the men, of a jacket, with pantaloons, buskins, and a yellow sash worn as a girdle round the loins. The sash, although generally yellow, is sometimes red, and sometimes it is variegated with flowers. The buskins are bound about the ankles with scarlet garters, ending in a black tassel. The jacket and pantaloons are of the same colour, and generally white; but blue, black, and grey, are also used. Some of the men, but very few, appear in long white coats, bound with the same sort of sash, like the *Don Cossacks*. The dress of the women resembles the *costume* of the females of the *Venetian* territory, and is very beautiful. They appear in a short scarlet or striped vest, made as gaudy as possible, with large and loose shift-

sleeves of very white linen, and white hoods or handkerchiefs upon their heads. The vests are often of silk or rich damask, embroidered with large brocade flowers. The name of this place, written *Kiemi*, is pronounced *Chimmy*, with the *Ch*, as in our word *Chimney*. We were fortunate enough to arrive in the very heyday of the *fair*, which lasts during ten days, and brings hither all the principal merchants from *Uleå* and *Torneå*. This being the *Sabbath*, was considered as one of the days upon which the most business is done. The *fair* is held upon an island, where several log-houses, like those of *Enontekis*, are stationed as warehouses, ranged in the form of streets, for exposing the goods belonging to the traders; by much the greater part of whom come from *Uleå*. They sell linen and woollen cloths, rein-deer harness, handkerchiefs, hardware, caps, and trinkets. The *Lapps* and *Finns* come to this fair from the most distant provinces; and it amused us to see how the wives and daughters of the dealers had dressed themselves, to attract the notice of these people: the more remarkable and conspicuous their appearance, the more custom they gained; many being fantastically dressed, and painted, like the strange figures exhibited to attract notice at a

Kiemi Fair.

CHAP. II.

puppet-show[1]. It was a gay scene: the boats passing to and fro from the isle to the shore, and the crowd assembled upon the little island, afforded a pleasing *coup d'œil*. The church service had just ended as we landed. A vast throng of peasants were filling all the boats, to go over to the island[2]. Seeing this, we stepped into one of the boats, and were speedily conducted into the midst of the jovial multitude. Of what nature the church service had been, they were very ill calculated to inform us: by much the greater part of the men were very drunk, shouting, singing, and romping with their favourite lasses. Great allowance may be made for the joyous season of this annual festival; but these were almost all of them *Finlanders*; and the *Finns* are notoriously of a livelier and more profligate disposition than the *Swedes*[3]. We

(1) The custom being itself *Asiatic*, and of *Scythian* origin, whence the whole *costume* of a fair may be said to have been derived: witness the form of the booths, and the sort of shows, exhibited at the fairs in the *Interior of Russia*.

(2) "The *Finlanders* of *Ulcborg* made their appearance, at this fair, in a dress which resembles the habits of the lower order of Jews in *England*; and is so far *Asiatic*, that it is common in *Russia*;—a long blue coat, fastened in front, by loops of lace, to small round silver or white-metal buttons, and bound about the loins with a coloured sash."

Cripps's MS. Journal.

(3) "At *Kiemi*, we had, for the first time, an example of a person pretending to the power of witchcraft. Our interpreter having told a woman that

had never seen a drunken mob in *Sweden* upon the *Sabbath*-day; nor indeed on any day, among the peasants. If intoxication prevail at all in that country, it will be found in the class of society who style themselves their *betters*. We were told, that, upon the ensuing *Sabbath*, the *Priest* intended to give a ball, at his own house, to all his friends in the fair: so much does custom decry or authorise the same thing in different countries. What would be thought, in *England*, of a ball given by a *Clergyman*, at his *parsonage*-house, upon the *Sabbath*-day? The whole country would be up in arms; and as great a ferment excited, as if a *Bishop* were seen dancing at a ball upon any other day. We had the pleasure of becoming acquainted with this *Clergyman*, and found him to be in all respects a worthy member of the *pastoral* office; bearing an excellent character; respected by his flock; and possessing considerable literary attainments. We received from him much useful information respecting our travels, and many rare plants which he had collected. Of all men, he was one of the least disposed, either to neglect his

Sunday Ball at the *Parsonage*.

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that she was the only dirty person he had seen at the fair, she answered, with a threatening countenance, "Look to yourself! I will take care that mischief befall you! Whenever you return to your own home, look to yourself!"—*Cripps's MS. Journal.*

CHAP. II.

clerical duty, or to be guilty of any violation of the sanctity of the *Sabbath*. It was, in fact, an annual custom, long established in the place, that the Clergyman of *Kemi* should thus receive and treat his friends: and he had conformed to it, as his predecessors had done before.

Of the Lapland and Finnish Languages.

Both the *Lapland* and *Finnish* languages are pleasing to the ear, and admirably suited to poetry, owing to their plenitude of vowels. They constantly reminded us of the *Italian*; and we might cite several instances of words common to all the three. *Acerbi*, as an *Italian*, sometimes understood the expressions used by the natives of *Finland*. But how great is the obscurity which involves the origin of the *Finnish* tongue! The people who speak it have no written character: their language therefore suffers in writing[1]. Foreigners judge of it by the manner in which it is written either by the *Russians* or by the *Swedes*; and both these nations, using their own characters, express the language of the *Finns*, not merely according to their peculiar notions of its pronunciation, but, what is worse, according to their peculiar method

(1) "Une des entreprises les plus utiles aux progrès de l'Archéologie seroit donc un Glossaire Finnois."—*Essai sur les Antiquités du Nord, par Charles Pougens, p.* 113. *Paris*, 1779.

of expressing that pronunciation. Nothing can be softer, or more harmonious, than the sounds uttered by a *Finland* peasant, when reciting his *Pater Noster*. It is full of *labials*, *nasals*, open *vowels*, and *diphthongs*, and is destitute even of a single *guttural*. It may be considered, therefore, as having, of all languages, the least resemblance to the *Arabic*, which, as spoken by the *Arabs*, is full of the harshest *gutturals*. We have subjoined a correct copy of the *Pater Noster*, as published by the *Swedes* in the *Finland* tongue[1]. Judging from sound only, the language of *Lapland*, supposed to be a remote dialect of the *Finnish*, resembles that which is spoken by the natives of *Japan*[2]; yet the same ideas are not expressed by the same sounds, as may be made

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(1) "Isa meidæn joka olet taiwaisa.
Pybitetty olkon sinun Nimes.
Læhes tulkon sinun Waldakundas.
Tapatukon sinun tahtos, niin maasa, kuin taiwasa.
Anna meille tænæpaiwænæ meidæn joka
pæiwæinen leipæmme.
Ia anna meille meidæn syndimme
andexi, niinkuin me kin andexi
annamme, meidæn welwollistemme.
Ia ælæ johdata meitæ kiusaureen,
Mutta pææstæ meitæ pahasta.
Sillæ sinun on Waldakunda ja Woima
ja Kunnia, ijankaikkisesti. Amen."

(2) See *Thunberg*'s Travels, Vol. III. *Lond.* 1796.

CHAP. I. [illegible] apparent, in the comparison of a few words.

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Sur	[illegible]	[illegible]
Fire	Finnico	Yelle	Yely
Ice	Kouri	Yenga	Yaw
Mountain	Jamma	Warra	Yonni
Knee	Kawa	Yocki	Yocki

The language of the *Lappi*, in its different dialects, seems to be very extensively dispersed. There seems good reason for believing that it exists, under different modifications, over the *north-western* parts of *Russia*, *Finland*, *Lapland*, *Greenland*, and the coasts of *Hudson's Bay*, and *Labrador*, inhabited by the people called *Esquimaux*. The territory of *Russian Lapland* alone is nearly 700 *British* miles in diameter[1], but it does not contain more than 1200 *Lappish* families; so

(1) See *Müller's "Description de toutes les Nations de l'Empire de Russie," p. 2. Petersbourg*, 1776. Not that it is intended to point out this work to the reader as containing accurate information with regard to the *Laplanders*. It is of the same stamp with many other publications that were "*a wool-gathering*" for the *Empress Catherine* II.; mere hasty compilations, made up according to order, but fitted, in the opinion of the *Russian* Cabinet, to impress Foreign Nations with high ideas of *Russian* literature. Thus, in his short chapter of sixteen pages upon the *Lappi*, we find *Müller* ascribing to this people the *Runic Staves* of the *Swedes*. "*Ils n'ont ni lettres ni écriture, mais bien des* hiéroglyphes, *dont ils se servent dans leurs* Rounes, *espèce de batons qu'ils appellent* Pilenawa." Ibid. p. 5.

CHAP. L.

Universality of Superstitions respecting *Sneezing*.

widely dispersed are this *nomade* people, in whatsoever land they dwell. A curious custom exists among all these *northern* nations, as among the *French* and *Italians*, and many of the inhabitants of ASIA and *Africa*, for which it would be difficult to assign an origin; namely, that of making a low bow, accompanied by some expression of benediction or of salutation, when a person happens to *sneeze*. The effect produced in a whole army of the Antient *Greeks*, by the mere circumstance of a person *sneezing*, is related by *Xenophon*[2]. The approaching return of *Ulysses* was hailed by *Penelope* in the *sneezing* of her son *Telemachus*[3]; and a religious reverence for *sneezing*, so antient, so universal, so utterly absurd, and so unaccountable, is not only alluded to by the *Greek* and *Roman* Historians, but has excited the curiosity of antient and modern philosophers[4].

Cypripedium bulbosum.

Botanical travellers will not visit *Kiemi* with indifference: it is the only spot in all *Europe* which may be referred to as the *habitat* of that rare and beautiful plant, the *Cypripedium*

(2) *Xenoph. Anab.* III. p. 198. ed. *Cantab.* 1785. Τοῦτο δὲ λέγοντες αὐτοῦ, συνέφρονα τοῦ· ἀκούσαντες δὲ οἱ στρατιῶται πάντες μιᾷ ὁρμῇ προσεκύνουν τὸν Θεόν. See *Aristoph.* Av. 717—721. ed. *Brunck*.

(3) *Homer. Odyss.* lib. 17.

(4) See *Aristotle*, *Plutarch*, *Pliny*, &c. &c.

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bulbosum. The students and professors of *Upsal* send to *Kiemi* for specimens of this plant. *Linnæus*, who published an accurate representation of it in his *Flora Lapponica*[1], and gathered his account of it from *Rudbeck* himself, failed of finding it, when he visited the place. It is, in fact, one of the indigenous plants of *North America;* and, therefore, it appears here only as an emigrant, who has settled upon the borders of *Lapland.* The clergyman of *Kiemi* annually collects some specimens of it, as he receives applications for them from so many persons: he very kindly presented us with four of these[2]. Among the *Swedish* botanists, it is always considered as the greatest rarity their country affords. It was in procuring specimens of this plant that we heard, to our great surprise, that Signor *Acerbi*, and his friend Colonel *Skiöldebrand*, had recently passed through *Kiemi*, in their return to *Uleå*, from the *North Cape.* They arrived at *Enontekis* the day after we left it; and finding Mr. *Grape* absent from home, they made no stay there, but descended the *Muonio* and *Torneå* with all

(1) See Tab. xii. fig. 5. *Flor. Lapp. Amstel.* 1737.

(2) Sir *Joseph Banks* has specimens of the same species of CYPRIPEDIUM, from the banks of the River *St. Lawrence* in *North America;* which he shewed the Author, soon after his return to *England.* The *American* specimens differ, as varieties, only in being of larger size.

possible expedition; and we, coming by other rivers towards the same spot, had nearly met them.

We hired carts to convey us to *Torneå*. The country between *Torneå* and *Kiemi* is covered with dwarf-fir and birch trees. We passed several poor farms, and crossed three ferries. The bridges had been destroyed by ice, during the preceding winter. Those bridges had not been long finished: they had cost the peasants 3000 rix-dollars. The road is excellent: it was full of well-dressed people, going to and returning from the fair. We soon came in view of the churches of *Torneå*, which make a conspicuous and imposing appearance, in the otherwise unbroken line of the horizon. As we crossed the river to the island upon which the town stands, *Torneå*, once so strange to us, seemed as it were a home, to which we were returning. At the time of our arrival, the inhabitants were making hay in the midst of the streets of the town, according to their annual custom. We drank tea with the father of our *Lapland* interpreter, Mr. *Pipping*, one of the principal merchants. A party of gentlemen belonging to the place, his guests, were playing at backgammon, throwing the dice, from their fingers, against the sides of the tables, instead of using dice-boxes in the

Haymaking in the Streets of *Torneå*.

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common way. The whole company, as usual, were smoking tobacco. The tobacco commonly used for smoking in *Sweden* is, all of it, the produce of the country; and it is execrable. There is a manufacture for preparing it at *Mälmö*. The genuine Dutch *knaster* is not to be bought, even at *Stockholm:* the *Swedes* sell a spurious composition of their own, under the name of *knaster*.

We prolonged our stay a little, during this our second visit to *Torneå*. Our good friend Mr. *Lunneberg*, Director of the School, was with us every day. He accompanied us upon an excursion to the new *Finnish* church, which was built by *Adelcrantz*, the peasant architect before mentioned. Near this building was found (*August* 12) the *Dianthus superbus*, still in flower.

Visit to a *Swedish* Family.

We paid a visit to a family residing in the country, at some distance from *Torneå;* and here we were introduced to a party of young ladies, who were embroidering flowers and landscapes very elegantly in tambour. They spoke the *French* language with fluency. One of them was reading a volume of *Swedish* poetry. We examined this work: it contained several long odes, and other miscellaneous poems, some of which were humorous. Of the odes, one was "*To Sleep*," another "*To Morning*," and so on for the rest. The favourite measure of the

Swedes, in their poetical compositions, consists of thirteen feet; the rhyming termination of each line being formed with a *Trochee*. Of this it is not easy to give examples in our language; although we had something like it in the ballads of our ancestors.

The specimens of *Natural History* which we had brought with us from *Lapland* became the subject of conversation, and especially the birds—the *Fringilla Lapponica*, and the *Motacilla Svecica*. Of the last, we had two stuffed; finding it impossible to procure a living specimen. They told us that this bird will not sing when it is confined in a cage; but that, in its native woods, it surpasses the *Nightingale* in the variety, harmony, and sweetness of its modulations and cadences[1]. Perhaps this may be doubted: the *Swedish* ladies, who thus extol it, are not likely to know more of its melody than what they hear from the reports of others; and in our long rambling amidst the wilds and woods of *Lapland*, whether by night or by day, we never heard the

(1) The author would have inserted an engraved representation of this bird, which is not bigger than a Wren; but even with the aid of a coloured plate, it would be difficult to picture the hues upon its breast. *(See the Note from Mr. Cripps's MS. Journal, in Chap. X. of the preceding Volume.)* In *English* books of *Natural History*, it is called "*The Blue-throated Warbler.*"

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State of Natural History in *Sweden*.

notes of this boasted songster[1]. Generally speaking, however, respecting the *Natural History* of *Sweden*, there is no want of accurate information in the country; because this branch of science is more particularly studied than any other. There is hardly an apothecary or physician who has not either a collection of stuffed birds or of insects, or of other living or dead animals, according as his knowledge and means of acquiring and preserving them is more or less extensive. A remarkable instance of the zeal shewn by this class of men, in such studies, occurred upon our return to *Torneå*. We had sent to the apothecary of the place for a few jars of conserved berries of the *Rubus Arcticus*, which it was said he prepared better than any one else; with a view of sending them to our friends in *England*. They were brought by a boy without either shoes or stockings, who, having

(1) *Acerbi* mentions the *Motacilla Svecica* as superior to the *Nightingale*, and "far better calculated for a companion in a room;" but he does not say that he ever himself heard it sing; and certainly no one, as yet, ever succeeded in making it sing in a captive state. "It lives," he says, "in the bushes of marshy places, and particularly likes to perch on the dwarf-birch (*Betula nana*): its flight is generally low: it makes its nest in the moss, and lays between five and seven eggs, of a greenish colour, nearly resembling that of the moss with which they are surrounded. It feeds on insects and worms; and I have seen several of them with caterpillars in their beaks, which were destined for their young." *Acerbi's Travels, Vol.* II. *p.* 224. *Lond.* 1802.

Curious example of the power of genius.

executed his master's orders, by their delivery, began to cast a longing eye towards the books of plants which we were engaged in turning over, being then busied in arranging our specimens; when, to our astonishment, he named every one of them as fast as they appeared; giving to each of them, with great accuracy, its *Linnæan* appellation. This extraordinary youth, with whom we soon became better acquainted, was the dutiful son of a poor widow of the name of *Pyppon*, living at *Uleåborg*, who, having bestowed upon her child the best education her circumstances would afford, had placed him as an apprentice under this apothecary. The apothecary himself had a turn for *Natural History*, but did not choose that his little pupil should quit the pestle and mortar for the pursuits of botany and entomology: "it interrupted," as he said, and perhaps very truly, "the business of his shop." The consequence was, that this young *Linnæus* carried on his studies unknown to his master; concealing his books and his plants; and rising every morning before three o'clock, that he might snatch a few stolen hours from the duties of his profession, and dedicate them to inquiries which had already qualified him to become his master's instructor. If he found, in his barefooted ram-

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bles, a new plant, or a new insect, he was compelled to hide it in his hat, and thus bear it to his hidden museum. It fell out, however, that his master discovered his boxes of insects; and these he afterwards allowed him to place in the shop, because they attracted the notice of customers, and gratified his master's vanity, who always exhibited them as of his own collecting. They had been thus exhibited to us, at our first coming to *Torneå*. This curious example of the power of genius, rising superior to all circumstances, and overwhelming every obstacle in one so young and friendless, induced us to take some pains in prevailing upon his master to allow a free scope to the bent of his inclination; and many were the pretences upon which we sent to the shop, that our young philosopher might be made happy in bringing what was required. Upon one of these occasions, we told him that a plant, rather rare, the *Sonchus Sibiricus*, was said to grow in the neighbourhood of *Tornå*, but that we had failed in our endeavours to find it. The words were scarcely uttered, when he ran off, as fast as his legs could carry him; and soon returned, bearing in his hands two or three specimens of this plant.

Dinner given to the *Torneå* Merchants.

Upon one of the days after our return, we invited the Merchants of *Torneå* to dine with

us; and our room not being large enough to hold them, we had borrowed the apartment of a *Danish* gentleman for their accommodation[1]. This gave rise to rather a ludicrous embarrassment. After the dinner ended, we sat waiting, in vain, to have coffee served, as usual: at last, the mistress of the house entered; and a good deal of whispering taking place, we asked the cause of it; when it came out, that she did not dare to serve coffee in any room but that which we had ourselves hired:—and why? because coffee, being a prohibited beverage, there ought to be at least ground for a pretext that we had brought this article with us to *Torneå*. We then adjourned to our own apartment; but some of the elder merchants were so scrupulous in observing the prohibition, that they would not touch a drop of the coffee, when it was brought in. One respectable old gentleman said, that "no *Swede* who loved his country would ever taste or encourage the exportation of an article which had contributed so largely to its ruin." *Tea*, or *tea-water*, as they call it, is generally

(1) "For ten *rix-dollars* a year, a man may have two very comfortable rooms. The wages of servants are very low. At *Enontekis*, we were told by Mr. *Grape*, that he hired his maid-servants for five *rix-dollars* a year. At this time, the exchange with *England* was so much against us, that *English* bills could not be discounted, but with a loss of ten per cent."
Cripps's MS. Journal.

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used as a substitute. The *Swedes* do not sit, as we do, after dinner: the custom is, to rise from table, and walk about the room, smoking a pipe of tobacco. In the *north* of *Sweden*, as in *Norway*, they smoke tobacco lying in their beds; and during the whole day, carry about with them a huge tobacco-pipe, the bowl of which is as big as a man's fist, while the tube is seen sticking out of the pocket, or swinging about in the hand. Intoxication is not less frequent, in consequence of the short time they remain at their meals: it is, in fact, the prevalent and almost the only vice of the inhabitants of *Torneå*. Drunkenness seems to pervade all ranks of people in the place;—but here the story of their vices begins and ends; it goes no further;—no thefts, no rapine, no murders. Great crimes are unknown among them. There had not been an instance of punishment for any capital offence, for a great number of years. Examples had occurred, in past times, of women destroying their infants, through utter incapacity to provide them with the means of subsistence, and to prevent their being starved to death; presenting an idea of poverty which we could hardly credit, from any thing we saw in the country: but we were told, that the last public punishment was for a crime of this nature; at

Prevalence of Intoxication.

all of which, both the crime and its cause, humanity recoils. Acts of violence, if ever committed, are attributed, not to the *Swedes*, or to the *Laplanders*, but to the *Finns*; a lively but irascible race of men, of whom we shall soon have occasion to speak more fully. The traveller who visits this extremity of the Gulph of *Bothniå*, whether from *Umeå* on the south, or from the *Lapland* provinces lying towards the *north*, will frequently have occasion to remark, that whenever the *Finns* are mentioned in conversation, the inhabitants shake their heads, ascribing to them, or to their influence, all deeds of anger, lust, violence, and drunkenness. The *Finns* are to the *Swedes* and *Lapps* what the *Irish* are to the *English* and *Scotch*; that is to say, a nation in which the extremities of virtue and vice are singularly blended; haughty, impetuous, and arrogant, in prosperity; abject and spiritless in adversity; in all things given to excess, whether on the brighter or on the darker side: which is the real reason why it has been so often observed of the *Irish*, that every individual among them has *two* characters: and fortunate is it for those who have witnessed only a manifestation of the *one*, which is deserving of all praise.

Character of the *Finns*.

August 15.—We prevailed with the apothecary to allow little *Pyppon* to accompany us to

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Departure from *Torneå*.

Kiemi fair. Upon the evening of this day, therefore, we bade a final adieu to *Torneå*. If our horses had been gifted with *Pegaséan* wings, they would not have flown fast enough for our young companion; so eager was he to reach *Kiemi*, and for once enjoy unrestrained liberty. During six years, with the exception only of his summer-morning scampers after a plant or an insect, he had never been farther from the shop than his master's door, or the limits of his court-yard. We had given him some *English* needles for his insects, and a few other trifles from our trunks, with which he considered himself possessed of great treasure. In this manner, with the most buoyant spirits, he took his seat in our waggon; making his appearance, for the first time, with a coat on, and his feet and legs clad in shoes and stockings, that he might seem dressed for the occasion: but complaining, shortly after, of the confinement and heat his holiday suit occasioned, he begged permission to divest himself of the incumbrance. As night drew on, however, we felt the coldness of the air very sensibly. The coldness of the fogs, after sun-set, is very piercing in the valleys; but in ascending a small hill, or any little eminence, hot gusts of wind are felt as from a stove. The moon, this evening, exhibited some

Extraordinary Refraction of the Atmosphere.

remarkable phænomena, owing to the state of the atmosphere. Indeed, the horizontal moon in *Northern* regions, at this season of the year, may be deemed as great a curiosity as the solstitial sun. In our own country, the rising of a fine harvest-moon is one of the most glorious sights in nature; but the size of the orb this evening, when it first appeared, was as large as the fore-wheel of a common chariot. At first, half the periphery was visible in the horizon, like an arch of fire, with the most brilliant indentations. Soon afterwards, a new and singular phænomenon was displayed: the upper part of this semi-orb seemed separated from its truncated segment below, and remained suspended above it, like a lambent flame over an expiring lamp; the band of vapours, which separated the two parts, forming a line perfectly straight, and parallel to the horizon; and having the same hue as the rest of the atmosphere: the planet itself seeming separated into two parts, which receded from each other. Another circumstance, yet more remarkable, attended this rise of the moon. We thought that the upper part of the periphery appeared rather the segment of an ellipse than of a circle, resting on its major axis. Presently, all doubt was removed: when the whole orb had cleared the verge of

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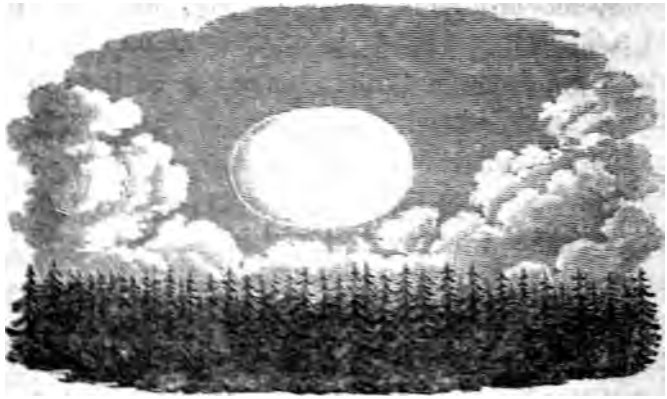
the horizon, owing to the very great refraction of the lower stratum of the atmosphere, we saw the moon, perfectly elliptical as to its form, like a vast egg resting upon rolling clouds. It



afforded proof of the dense medium through which we viewed it; and probably, therefore, it is no unusual appearance in these regions[1];

(1) "The air's density and refractive power are increased by cold, and diminished by heat; not to mention the changeable mixture of vapours and exhalations with the air near the horizon. There is a famous observation of this kind made by some *Hollanders* that wintered in *Nova Zembla*, in the year 1596, and were surprised to find, that, after a continual night of three months, the sun began to rise seventeen days sooner than according to computation, deduced from the altitude of the Pole, observed to be 79°; which cannot otherwise be accounted for, than by an extraordinary quantity of refraction of the sun's rays passing through the cold and dense air in that climate. *Kepler Paralipom. in Vitellio*, p. 233) computes that the sun was almost five degrees below the horizon, when he first appeared; and consequently the refraction of his rays was about nine times greater than it is with us."—Sturm's *Optics*, vol. II. p. 62. (*Remarks.*) *Quarto Edit.*

After

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Antient Fable of the *Egg of Night.*

but a more magnificent sight can scarcely be conceived. The antient mythological fable of the *Egg of Night resting upon Chaos* may have owed its origin to a similar appearance[2]; and it may be observed, that this *Egg* was called ὠὸν ὑετήριον, which, according to *Hesychius*[3], signifies (ὑέτιος) *rainy*[4].

After the preceding remarks upon the First Book of his *Optics*, the author mentions the *oval* figures of the *horizontal Sun* and *Moon*.

"Since the apparent vertical diameters of the *horizontal Sun* and *Moon* (by reason of the unequal refractions of the highest and lowest rays) are much more contracted than their horizontal ones, their pictures upon the retina, and consequently their apparent figures, become *oval;* their longest and shortest apparent diameters being frequently as 5 to 4, (*Balthasaris Micrometria, p.* 101, *fig.* 103.) especially in the mornings, when the rays are most refracted through a colder, denser, and moister air." *Ibid.*

(2) *Aristophanes in Avibus, v.* 692. "Sable-winged Night produced an Egg; whence sprouted up, like a blossom, Eros, the lovely and desirable, with his glossy golden wings." This subject afforded to *Darwin* the machinery for one of the finest passages in his poetry:—

"When Love divine, with brooding wings unfurled,
Called from the rude abyss the living world—
'Let there be Light!' proclaimed the Almighty Lord,
Astonished Chaos heard the potent word;
Through all his realms the kindling Ether runs,
And the mass starts into a million suns;
Earths round each sun with quick explosions burst,
And second planets issue from the first;
Bend, as they journey with projectile force,
In bright ellipses, their reluctant course;
Orbs wheel in orbs; round centers, centers roll;
And form, self-balanced, one revolving whole:
Onward they move, amid their bright abode,
Space without bound, the bosom of their God."

(3) Ὑετήριον ἄνεμον ὑέτιον. *Hesychius.*

(4) See *Bryant's* Mythology, vol. II. p. 352. *Lond.* 1774.

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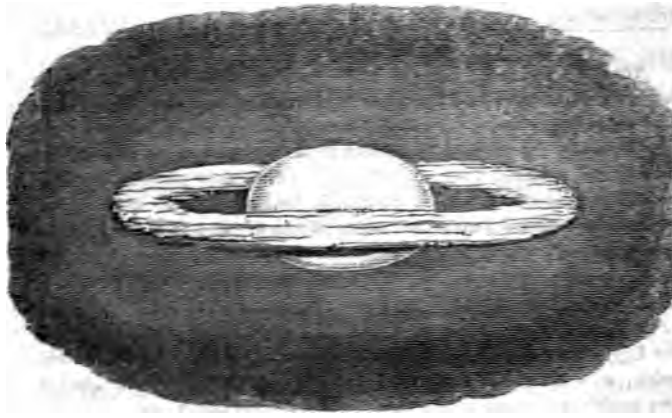
This changeful scenery still continued, varying at every instant: at last there ensued a more remarkable appearance than any we had witnessed. The vapours dispersed; and all the rolling clouds disappeared, excepting a belt collected in form of a ring highly luminous around the moon, which now appeared, in a serene sky,



like the planet *Saturn*, augmented to a size fifty times greater than it appears through our best telescopes. The belt by which the moon's rays were reflected became beyond description splendid, and the clear sky was visible between this belt and the full fair orb which it surrounded. Certainly, if the same phænomenon had been visible in *England*, the whole country would have been full of it, from one extremity of our island to the other.

The effect produced by the moon's rising, considered merely as a beautiful spectacle, is often more striking than that of the sun: because, in latitudes where the sun's rising is always preceded by much twilight, its orb is more gradually introduced; but the moon, "covered with light as with a garment," bursts all at once from her obscurity. It is perhaps to this circumstance we may attribute those beautiful allusions to this planet, which are so frequent in the poetry of *Northern* nations[1].

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(1) Of which we have instances in our language that it were superfluous to mention. Two or three may be cited. The first, remarkable for its exquisite moral feeling, is from BEATTIE:—

"Roll on, thou fair orb! and with gladness pursue
The path that conducts thee to splendour again:
But man's faded glory what change shall renew—
Ah fool! to exult in a triumph so vain."

Something, perhaps more pathetical, occurs in CHARLOTTE SMITH's Poems:

"And oft I think, Fair Planet of the night!
That in thy orb the wretched may have rest."

But, as more peculiarly applicable to the sudden display of majesty in which the rising of the moon is here said to be characterized, there is no passage more striking than that which BYRON, in one of his "eagle-winged raptures," and with that "deep sense of beauty" which belongs to all his poetry, has expressed in the finest Canto of his finest poem:—

"The Moon is up, and yet it is not night—
Sun-set divides the sky with her—a sea
Of glory streams along the alpine height
Of blue Friuli's mountains; heaven is free
From clouds, but of all colours seems to be
Melted to one vast Iris of the west,
Where the day joins the past eternity;
While, on the other hand, meek Dian's crest
Floats through the azure air—an island of the Blest!"

CHAP. I. Wild-wood Fruits.

In the north of *Sweden*, they have neither apples, pears, cherries, plums, nor any kind of fruit produced by cultivation: but Nature has been sufficiently bountiful to the inhabitants, in pouring forth a profusion of wild and delicious dainties. Among these, as the most abundant, may be mentioned no less than six species of *raspberries*, besides white, red, and black *currants*, which grow wild in all the forests. Our common *raspberry* appears abundantly, in a wild state, producing highly-flavoured fruit, between *Torneå* and *Kiemi*, as indeed throughout all *Sweden*. Wild *gooseberry*-trees may also be observed, but they are less common. Of the *whortle-berry*, they have four species, producing black or red berries. The black *whortle-berry* grows in such profusion, that it often covers the soil. The mouths of the children were everywhere stained by eating of those berries, at this season of the year. Of the red *whortle-berries* they make a conserve, by boiling them in molasses, which they eat as a sauce for meat. All round the Gulph of *Bothniå*, the traveller, at this season of the year, will see old women and children waiting near the public roads, in hopes of meeting passengers to whom they may offer their large baskets filled with *raspberries* or *whortle-berries*. The baskets are made of birch-

tree bark. Children frequently followed our carriage, presenting baskets of these berries. If, in return for a gallon of berries, they obtained a few pence, they endeavoured to load the carriage with more fruit; kissing our hands in gratitude, and bowing to the ground. We made tarts with the fruit we thus purchased;—a use to which the inhabitants never apply it, owing probably to the scarcity of sugar.

When we arrived once more at *Kiemi*, we found the place resounding with the shouts of stragglers from the fair. A forest on fire appeared towards the north, covering all that part of the horizon with the tremendous red glare it occasioned. To the inhabitants, this sight is so common, that no attention is ever paid to it. The conflagration extended for several leagues; but by the accounts given of it by persons from that part of the country, it was at a very considerable distance. The next morning we waited on the Clergyman, and saw his well-selected *Herbarium:* the specimens were in high preservation. He had also a few minerals, left by his predecessor; but they were scarcely worth notice. We then conducted young *Pyppon* to the fair, upon the island off the town. Here we saw assembled almost all the *Torneå* merchants; and, accordingly, we took leave of our friends;

Forest on fire.

Visit to the Minister.

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especially of Mr. *Pihong*, our *Lappish* interpreter, who was transacting his father's business, and whose good offices we can never sufficiently acknowledge. We found him at his favourite diet of raw salmon, surrounded by a crowd of *Finns* and *Lappanders* promiscuously mingled, all merry, and very noisy. A consciousness of the many pleasant hours we had passed together, added to the thoughts of never meeting again, depressed all our spirits, casting a gloom over the otherwise gay scene which was here exhibited. When we returned back to the ferry, we had another melancholy separation from little *Pyhbor*, whose attachment to us would not allow of his remaining without us, even among his acquaintance: he therefore accompanied us to the other side. His request, when we asked him what we might send him from *England*, will add another trait to the sketch we have given of his character. "If you should remember me," said he, "when you arrive in your own country, send me *Drosera longifolia*: I am told it is a common plant in *England*." We then shook hands and parted: the poor boy, shedding abundance of tears, set out for *Torneå*; and we gained the main road leading to *Uleåborg*. It was now towards evening, and we did not proceed farther upon our

Departure from Kiemi.

journey this night than *Kjanfraniemi*; passing through *Rautiola*, about two *English* miles from *Kiemi*, and also *Maxaniemi*; at each of which places we changed horses[1]. We had often found as good accommodation in *Lapland* as we met with in *Kjanfraniemi*. Upon entering *Finland*, a very evident difference of manners is discernible. The disposition, habits, dress, and other national distinctions of the people, are very strikingly opposed to those of *Sweden*. We have already pointed out some of the discriminative characteristics of the *Finns*; and shall have occasion to mention more. We might say, perhaps generally of them, that, like the territory they inhabit, they are intermediary between the *Swedes* and the *Russians*; being nevertheless superior to the *Russians* in every amiable qualification. The inhabitants of this part of *Ostero-Bothniâ*, and indeed the *Finns* in general, are a healthy and athletic race of men, inured to labour, and by nature active, and fitted to undergo the severest trials of bodily

Difference discernible upon entering *Finland*.

Kjanfraniemi.

(1) *Parnassia palustris* grows to a magnificent size between *Rautiola* and *Kjanfraniemi*. The *Dianthus superbus* also flourishes near the road, and attains much greater magnitude than in *Lapland*. The forests are low, and little varied in appearance: they consist of *birch* and dwarf *firs*. Several *Lapland* plants were here in seed; especially the *Pedicularis Sceptrum Carolinum*; but this was becoming rare, and only reared its exuberant stems here and there.

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strength. The King of *Sweden* has not in his dominions a finer nursery for soldiers than *Finland*: of this *Russia* is well aware; and never loses sight of that decided policy of her Cabinet which directs her, by all manner of means, fair or foul, to get possession of *Swedish Finland*[1]. The custom of transporting houses from place to place, which is everywhere prevalent near the Gulph, is similar to what one sees in *Russia*. The houses are built in the forests: then they are taken to pieces, and conveyed to the spot where they are to be inhabited. The horses are, as usual, small, but beautifully formed, and very fleet. The peasants take them from the forests when they are wanted for travellers, and, with very little harness, fasten them to the carriage. In this state, they are without shoes, and seem perfectly wild; but it is surprising to observe how regularly and well they trot. A pair of them, with our little waggon, went frequently at the rate of twelve miles within the hour. The carts which we hired to follow with the baggage were large and clumsy, without any tire to the wheels; but they are so con-

(1) The Reader will perceive that these and other remarks respecting the relative political interests of *Sweden* and *Russia* were written previously to the peace between the two countries, by which *Russia* at last wrested this territory from *Sweden*.

trived, that the shafts act as springs. A person sitting upon the shafts, close to the horse's tail, and journeying upon the superb roads which he everywhere finds in *Sweden*, but especially in this part of the country, might travel conveniently in one of these carts, without being jolted.

About a quarter of a *Swedish* mile from *Kjanfraniemi* we passed a sawing-mill of great magnitude: finding that it was conducted upon a very extensive scale, we wished to have examined the works; but no business was going on, and the owners were absent. Just before we arrived at *Alafva*, we came to a glass-manufactory, by the road side. Here we visited the laboratory, but observed nothing more than what is usual in such places. They were occupied in blowing cylinders about six inches in diameter and two feet in length: these cylinders are afterwards again heated, for the purpose of being cut, and rolled out into plates of window-glass. One of the men, to amuse the servants, made a glass trumpet, ten feet in length, upon which he afterwards performed with wonderful skill: the tones were so loud, shrill, and clear, that they might be heard at a great distance. From *Alafva* we came to *Ijo*, or *I*, pronounced *Æ*,[2]

Alafva.

(2) There is a river with the same name in *Kuban Tahtary*. See Vol. II. of the Octavo Edition of these Travels, Chap. I. p. 10.

CHAP. I.

Ijo.

so called from the river *I*, which is named *Ijocki*. We crossed this river by a ferry to the town; which, like many other towns on the Gulph of *Bothniå*, consists chiefly of empty houses, repositories for merchants during the annual fairs. The fair of *Ijo* succeeds that of *Kiemi*. Fresh salmon sold here at one penny *English* the pound; exactly the price at which the author remembered it selling some years before at *Cardigan* in *Wales*. The Church at *Ijo* is a picturesque object: in its style of building, like many of the smaller churches in *Ostero-Bothniå*, it resembles those of *Switzerland*. In our road from *Ijo* to *Haukebodas*, we were frequently followed by women and children offering *raspberries* and *whortleberries*. *Fahrenheit's* thermometer, this day at noon, 68°. We now began to pass villages, which is rarely the case on the *western* side of the Gulph, and never so in *Lapland*; the different stages extending always, in *Lapland*, from one place of settlement to another, without any appearance of habitation in the intervening district; unless, indeed, it be some wild *Laplander*'s tent, which is never a fixed abode. The population of *Ostero-Bothniå* is very considerable, and the ground is better cultivated than in any other part of *Sweden*. The harvest for *rye* and *barley* had commenced:

Population and Agriculture.

the crops of *rye* were everywhere excellent; those of *barley* bad; some of the latter hardly worth reaping. Throughout the whole of this district, the soil was in fine order; the ground being well cleared, and kept remarkably clean. The *Finland* farmers are particularly neat in husbandry. Wild *currant-trees* were in great abundance upon this road. We dined at *Haukebodas*, upon fresh *salmon*, and *cloudberries* and cream. Leaving this place, we proceeded to *Jukuri*, where we changed horses. Here the road became bad, a very unusual thing: it had been newly made, and consisted of deep sand. The country, unlike that of the western side of the Gulph, lies open to view. The town of *Uleå*, or *Uleåborg*, makes a conspicuous figure, in its approach. It has two churches, as have also almost all the other towns in this country; one for the people of the town, the other for the peasants. During divine service, they never mingle together; the peasants rather choosing to supply the expense requisite to maintain a church and minister of their own. We crossed a ferry to *Uleå*; being conducted, round a point of land, to the Custom-house, which is opposite the town. The officer had retired to rest, and did not choose to be disturbed by the usual examination of the luggage. The approach by

Haukebodas.

Jukuri.

Arrival at *Uleåborg.*

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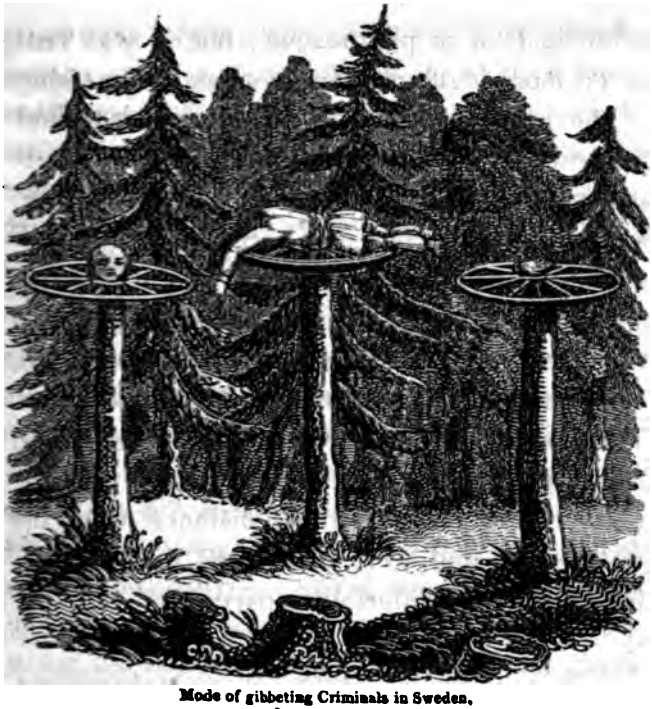
water to *Uleå* is picturesque; but it was rendered more highly so, this evening, by the rising of the moon, in all her brightness, from behind the town. In this prospect, the warehouses o the merchants constituted a principal feature, and not the most pleasing part of it. They resemble so many large deal-boxes by the water-side, similar to what we saw at *Umeå*. Towards the left, appeared the Church, the Town-hall, and the greater part of the dwelling-houses. The streets of *Uleå* are of great length, and some of them are paved. We drove into the inn-yard, at a considerable distance from the water-side; and were conducted into a small, but clean and comfortable apartment[1].

(1) The same in which *Acerbi* met with the singular adventure, upon the night of his arrival at *Uleåborg*, which he has related in his Travels, Vol. I. p. 254. *Lond.* 1802.—The Reader may also consult *Acerbi*'s work for some curious observations on the climate, &c. of *Uleåborg*.



Mode of gibbeting Criminals in Sweden.

CHAP. II.

FROM ULEÅBORG, IN OSTERO-BOTHNIA, TO UMEÅ.

Signor Acerbi *and his Party—Interview with that Traveller — Colonel* Skiöldebrand — *National Music of* Finland—*North Cape—Baron* Silferhielm — *Generous behaviour of a Merchant—Trade of* Uleå—*Entertainment given by Baron* Silferhielm—*Animal Magnetism—*

Departure

Departure from Uleåborg—*Plants*—*Mode of gibbetting Criminals*—Brahestad—*Origin of the Court Uniform of* Sweden—*Appearance of the Country*—Finland *Fishermen*—*Description of* Ostero-Bothniå—*Beginning of the Rainy Season*—Gamla Carleby—*State of Literature*—Ny Carleby—Wasa—*Musical Instrument called* Hummer—*Passage of the* Quarken—*Isle of* Björkö—*Quay of the Natives*—*Village of* Björkö—*Inhabitants*—*their contempt of wealth*—*Male and Female Peasants*—*Population*—*Vegetable Productions*—*Voyage to* Umeå—*Antient Finnish* Rhune—*Popular* Swedish *Air*—*its versification imitated in an* English *Ode.*

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Signor *Acerbi*, and his Party.

We had scarcely dismounted our baggage, before we heard that Signor *Acerbi*, and the companions of his journey to the *North Cape*, were in the town: and almost in the same instant, Dr. *Deutsch*, of *Torneå*, entered our apartment, with an invitation to breakfast with the party on the following morning. Our curiosity to meet *Acerbi* was very great: we had been unintentionally in pursuit of him, from the time of our arrival in *Sweden*; having often arrived in places which he had recently quitted, without seeing him. The Reader will also recollect that he had arrived at *Enontekis* the day after we left it. Dr. *Deutsch* has been before mentioned, as the physician who attended the author upon the eve of his expedition to the source of the

Muonio[1]: he had followed *Acerbi* from *Torneå*, attracted by his intelligent conversation and engaging manners; and, above all, by his love of music. Such was the extent of *Acerbi*'s skill in music, that he could, at sight, adapt any number of variations to the most complicate pieces of composition; could perform upon a number of different instruments; and, by composing parts for several performers, he gratified the inhabitants of *Uleåborg* by a concert; the first they had ever heard in their lives: indeed, before his arrival, they had no other idea of an accompaniment, than that of several persons playing in unison: even a duet, consisting of two performers playing different notes, was unknown. Dr. *Deutsch* remained with us a part of the evening, speaking with great rapture of *Acerbi*'s genius, of his enterprising spirit, inquisitive mind, quickness of apprehension, and the zeal for liberty by which he was characterized. Respecting the traits in which this last part of the character of an otherwise amiable man was displayed, we shall be silent: the desolating torrent of democracy, which was let loose upon the nations by the *French* Revolution, has found its level: and if an inhabitant of the North of *Italy*,

(1) See Chap. IX. of the preceding Volume.

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educated under a tyrannical Government, endeavoured to extend the blessings of emancipation beyond the limits of his own country, by joining in the views of the *French* Republic, it was no more than might have been expected in an ardent and youthful mind, under similar political circumstances. Flying from the convulsive struggles of *Europe* at this time, our views and inquiries were directed towards any thing rather than political speculations: therefore, however curious or important the real objects may have been of *Acerbi*'s visit to these remote regions, we shall only so far allude to them, as may serve to make known, at this distance of time, when the communication cannot be injurious, the extent of the Revolutionary influence then operating, throughout *Europe*, from the *Mediterranean* to the *Icy Sea*. Our arrival at *Uleåborg* had been expected by the inhabitants; and, consistently with *Swedish* hospitality, a concert of music, at which *Acerbi* was to preside, and a supper, had been prepared for our reception: but the lateness of our coming, added to some little indisposition on the part of the author, prevailed, in having us excused from attendance.

Interview with that Traveller.

Sunday, August 18.—We set out, according to invitation, to breakfast with Signor *Acerbi*; being very desirous of a personal interview with

a traveller of whom we had heard so much, and whose name resounded from one end of *Sweden* to the other. We found him, in a large airy apartment, with his countryman, Signor *Bellotti*, younger than himself, surrounded by all the trophies of his travels — stuffed birds, dried plants, insects, *Lapland* dresses, magical drums, *Rhunic* staves, *Lapland* boots, shoes, furs, caps, fishing utensils, weapons, musical instruments, and philosophical apparatus. He addressed us in very good *English*; saying he had spent some time with Mr. *Grattan*'s family, in *Ireland*; and had prepared for us an *English* breakfast, consisting of tea and buttered rolls. In the center of the table stood a large bowl of wild-raspberries; upon which, with a little milk and cream, he and his companion breakfasted — being more after the *Italian* fashion[1]. From his conversation we collected the following general facts, respecting all the country lying to the north of the region we visited, as far as the *Icy Sea*. From the sources of the *Alten*, as far as *Kautokeino*, and beyond, for some distance north-

(1) In his person, *Acerbi* is tall, with a somewhat sallow countenance, equiline features, dark hair, and uncommon penetrating eyes. The portrait prefixed to the First Volume of his Travels is not a good likeness of him: it has a *Jewish* look and a sarcastic expression, which do not belong to him.

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ward, the country resembles, in all respects, that which we have described in the neighbourhood of *Enontekis;* a bare and level district, covered only with the creeping branches of the *dwarf birch.* More towards *Alten,* the scenery becomes bolder; the surface being rocky and mountainous, and the waters of the rivers falling in pleasing and picturesque cascades. We had the pleasure of seeing the drawings made by Colonel *Skiöldebrand,* who accompanied Signor *Acerbi;* and they confirmed this account of *Finmark.* In some of those drawings, which were said to be very faithful, and which the Colonel had coloured upon the spot, he had represented the appearance of the sun at midnight; its orb beaming a yellowish red and dim light. In the view he had made of it, as seen from *North Cape,* (latitude 71°,) its apparent elevation at midnight was six diameters above the horizon; but, one month after the solstice, they said, they had seen it elevated fifteen diameters. The cliffs and caverns of the coast of the *Icy Sea* towards *North Cape* are very grand; and the same grandeur of scenery extends westward, the whole way thence as far as *Trönÿem,* or *Drontheim.* From the description of that part of the coast which these gentlemen had seen, it resembles the north and north-west coast of

Colonel *Skiöldebrand.*

Scotland, and the northern *Hebrides*, both in its characteristic features and productions. *Alten*, situate at the mouth of the river of this name, consists of the houses of a few merchants, who live there all the year. Vessels of large size anchor close to it. During the time that *Acerbi*'s party remained at *Alten*, the roving *Lapps* came every day, in great numbers, to sell the fish they had caught. By this means, he had an opportunity of seeing a good deal of the manners and customs of this people; but we observed nothing, in his account of them, that we had not before noticed. One of the greatest curiosities he had brought with him from *Lapland* was the remarkable kind of mouse, before mentioned, inhabiting the tops of mountains, and thence descending in swarms into the plains, pursuing always, in their course, the same straight line, from which they will not deviate. If they meet a man, they will push against him and bite him, rather than turn out of the line they observe. In this manner they are devoured by *rein-deer*, and constitute the only animal food which the *rein-deer* is known to eat: but if they escape the *rein-deer*, they cross rivers and lakes, until, at last taking to the sea itself, they never return. *Olaus* maintained, that the descent of these animals took place only after rain, and that "they fall from

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heaven in sudden tempests and storms." The march of *Acerbi* and his companions resembled that of a small caravan: they carried with them nine servants, besides tents, and every other convenience which might enable them to encounter the difficulties of such a journey; if, thus provided, they could be considered as liable to any difficulty whatsover. They had observed that both *Lapps* and *Finns* sung extempore rhapsodies, consisting of a few words often repeated, of which we have already given a specimen. When they arrived at *Kauokeino*, some *Lapps* who were there sang a song about the coming of strangers to see them. *Acerbi* had taken great pains to ascertain the history of *Finnish* music. He told us, that the instrument of five strings, which we had seen[1], was the genuine harp of *Finland*, adapted to their *five* notes; that all their musical compositions, dances, and songs, were only so many changes upon these *five* notes. To prove how these *five* notes might be varied so as to form a beau ful concerto, he sate down to his harpsichord, and began to play one of his own compositions in the *Finnish* style; introducing into the midst of it a *Finnish* national air. With all deference, however, to

National Music of Finland.

(1) See the Vignette to Chap. XII. of the preceding Volume.

his superior judgment and skill in music, we thought that he was deceived in ascribing any thing beyond a mere *humdrum* to the national music of the *Finns*. All the popular airs that we heard in *Finland*, were either translations from the *Swedish*, or they were borrowed from *Russia*: this we took some pains to ascertain. Their convivial songs, for the most part obscene, were of the same nature. The purely national music of *Finland* is confined to a few doleful ditties, or it is adapted to the hymns and psalms of their churches. Even their dances are not national: they have a coarse kind of *waltz* common in the country, but this was originally taught them by the *Swedes*.

North Cape.

The rocks of *North Cape*, according to the observations of *Acerbi* and Colonel *Skiöldebrand*, consist of grey *granite*. They found snow and ice in many places, and amused themselves with skating in the dog-days. They also collected *pearls* from the fishermen. The greatest degree of heat, during their whole journey within the *Arctic Circle*, occurred at *Palajoensu*; the thermometer of *Celsius*, in the morning of the sixth of *July*, being at 14°; at noon, 29°; at midnight, 18°; and when exposed to the sun's rays, 45°. It is remarkable, that we also observed the highest degrees of temperature at the same

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place; *Fahrenheit*'s thermometer on the *twenty-third* of *July*, at noon, in the shade, being 76°: when exposed to the sun's rays, the mercury rose in five minutes to 100°: in fourteen minutes to 110°, where it rested. The temperature of the river water, in the full current of a rapid cataract, equalled 67°. Our former observations, with regard to the pigmy stature of the *Lapps*, were confirmed by these gentlemen: they had not seen a *Laplander* whose height exceeded five feet. A singular circumstance respecting this people, which we had not noticed, was mentioned by *Acerbi;* namely, that they do not eat *salt:* this is the more extraordinary, considering the religious veneration in which *salt* is held, and the superstitions concerning spilling it, common to so many nations.

Baron *Silferhielm.*

While we were thus engaged in an interesting conversation with these travellers, Baron *Silferhielm*, a *Swedish* nobleman, residing with his family in *Uleåborg*, was announced. He desired that we would use his house as our own, while we staid. Soon afterwards, another gentleman of the town sent us an invitation to one of those concerts which, under the direction of *Acerbi*, had, for the first time, been here instituted. We promised to join the party; and it was agreed, that, after the concert, we should all

sup with the Baron. We spent the day in seeing the place, and in conversation with the resident merchants. A tradesman, by no means rich, of the name of *Fellman*, to whom we had no letter either of introduction or credit, discounted for us a bill upon *Stockholm*, for three hundred *rix-dollars*. May it not be asked, Whether in any other country, except *Sweden*, a foreigner would have met with a similar instance of unsuspecting liberality? Where would he find a town, in which the inhabitants, not satisfied with shewing the most unbounded hospitality to strangers, in all that relates to their comfortable accommodations, add, besides the offer of their houses and provisions, their purses also? Those who seek after motives in explaining, consistently with their own selfish propensities, the benevolent actions of others, will be puzzled to find any in this beyond unmixed virtue; for here were no seducing views of interest or of ostentation: the offer was proposed as privately as it was accepted; and if the person who made it be now living, this public acknowledgment of the trust he reposed in "the wayfaring man that was come unto him," excepting the reward of his own heart, is all that he has gained by it. *Uleå*, as a town, is larger than *Torneå*: it is equal to *Geffle* in size,

Generous behaviour of a Merchant.

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Trade of *Uleå.*

but not so handsome. The Governor of the province resides here. Its trade consists in exporting *tar, deals, dried fish, tallow,* and *pitch.* Vessels go hence to *Stockholm* in about four days; and sometimes sail to *London* in the course of six weeks.

Entertainment given by Baron *Silferhielm.*

After the concert was ended, we supped with the Baron. His entertainment was sumptuous, and the company numerous. *Acerbi* was placed at the head of the table; entertaining every body by his lively and engaging conversation. Among the ladies present, there was one of uncommon beauty, whom every body addressed by the name of *Albertina.* Many of the gentlemen, as it is customary in this and in some other countries, instead of being seated, walked round the table. The mention of these circumstances may appear trifling; but to us, the sudden transition, from scenes of savage life, was so extraordinary, that it seemed to be the effect of a dream. Within a very short space of time we had exchanged the wildernesses of *Lapland* for the luxuries of polished society; brilliant lustres, supporting *English* patent-lamps, being substituted for burning splinters; a magnificent saloon for a narrow, contracted, and smoky cabin; *French* confectionary for bread made of birch-bark and chopped straw; the most costly

dainties, for raw or dried fish and flesh; beauty and wit and wine, for ugliness and stupidity and *pima*. Wonder not then, Reader, that we have been tempted to tell thee how we supped with Baron *Silferhielm*, at *Uleåborg!*

In the morning (*Monday, August* 19) we breakfasted with the Baron; who, being passionately fond of mechanics, shewed us several of his own ingenious contrivances; and, among the rest, a portable bed for officers of the army, or travellers; so contrived, that all the apparatus belonging to it might be contained in a knapsack. But a promise which this nobleman had made to us on the preceding evening, of exhibiting his powers of *Animal Magnetism*, (an art which he had been taught to practise in *Paris*, and of which we had heard marvellous accounts from *Acerbi*,) so much excited our curiosity, that we could attend to nothing else. We begged, therefore, that we might witness the effects of this art: and being asked whether we would ourselves submit to its trial, we readily consented. Signor *Bellotti* and Mr. *Cripps* were the first selected for this purpose. As it was impossible to preserve gravity in the midst of the mummery and manipulation necessary for this species of conjuring, both these gentlemen burst into laughter, as soon as the Baron began

Animal magnetism.

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his gestures and tricks; but to our amazement, their laughter gradually subsided into a convulsive and tremulous motion of the cheeks, and they both fell fast asleep. The beautiful young lady, before mentioned under the name of *Albertina*, being also present, was next thrown into a trance, in the same way; during which she answered several questions that were put to her, without waking. Afterwards, the same sort of farce was attempted with *Acerbi* and with the author; but upon neither of them could the Baron produce any other effect, than that of making them laugh immoderately. *Acerbi*, however, who has gravely related all that passed upon this occasion[1], not being satisfied as to the means in which the trick was effected, said, "It is easier to laugh at this, than to explain it." But the fact must have been, that the young lady was an accomplice in the juggle; that Signor *Bellotti* and Mr. *Cripps*, fatigued with the length of the *Hocus Pocus*, took the liberty to doze; and that their more wary companions, disregarding the Baron's grimaces and attitudes, remained proof against all the influence of *Animal Magnetism*.

At six o'clock in the evening of this day,

(1) See *Acerbi's* Travels, Vol. I. p. 270. *Lond.* 1802.

Departure from *Uleå-borg.*

Signors *Acerbi* and *Bellotti*, with Colonel *Skiölde-brand*, and their attendants, embarked on board a vessel bound for *Stockholm*. We also left *Uleåborg* for *Kæmbålæ*, where we intended to have halted for the night; but the accommodations were too bad even for persons accustomed to *Lapland* fare; and one day's stay in *Uleåborg* had made us perhaps more fastidious than we should otherwise have been: we therefore proceeded as far as *Limmigå;* in doing which, the author, being exposed to bad air after sun-set, caught a violent cold, which was followed by inflammatory sore-throat, and so obstinate an intermittent fever, that he was liable to the attacks of it during his whole journey into *Norway*. The country to the south of *Uleåborg* is open, flat, bleak, dreary, and swampy. Before we visited *Sweden*, we should never have thought such a prospect pleasing; but we had now been so long shut up in forests, that the change was delightful; and even ugliness charmed us in its novelty. We had seen nothing of a campaign character since we quitted the south of *Sweden*. The house at *Limmigå* reminded us of the buildings of the *Swiss* peasants.

Our journey the next day (*August* 20), from *Limmigå* to *Kumijocki*, was over a level well-cultivated country, producing *rye*, *barley*, &c. in

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which we had frequent and extensive views of the Gulph; the sea being less land-locked than on the western side, where its appearance is generally like a series of lakes. Between *Kumijocki* and *Karingango* we collected many plants in flower, especially fine specimens of *Rubus Arcticus*[1]. We passed forests of low *birch*, *aspen*, *alder*, and many varieties of *willow*. A great quantity of *hay* is collected in the marsh and boggy land, which is seen heaped upon piles near the spot where it grew. The soil hereabouts is impregnated with *iron*. In the forests, the earth is covered with different species of *Vaccinium*. That which bears black berries *(Vaccinium myrtillus)* is called *Blåbär*; and another with red berries *(Vaccinium vitis idæa)* has the name of *Lingon* among the *Swedes*: the *Lapps* call it *Jokno*. From *Karingango* to *Sikajocki*, our journey was through a fen, the whole way: the air, of course, after sun-set, is bad at this season of the year. The author being much troubled with fever, endeavoured to lower it, by adhering solely to a diet of *pïma*[2]; but it increased the disorder. The roads all the way

Plants.

(1) *Ranunculus repens; Epilobium, montanum et palustre; Saxifraga hirculus; Parnassia palustris; Lythrum salicaria bifolia; Pyrola uniflora;* the last with its seed-vessel only; &c. &c.

(2) The sour milk diluted with water, before mentioned, as used by the natives in *Lapland*: it is the same as the *Yowrt* of the *Turks*.

from *Uleåborg* were deep in sand. We crossed a ferry at *Sikajocki*, and came to *Oljocki*, through a flat and fenny district. Bad as the roads were, however, they afforded proof of the industry of the people; being made entirely through swamps, where the undertaking was attended with almost insurmountable difficulties. Just before we reached *Oljocki*, an open space in the forest, cleared for the purpose, exhibited, upon three wheels, the mangled carcase of a miscreant *Finn*, who, in a fit of intoxication, had cut off a woman's head with an axe[3]. His head was placed upon one wheel, his right-hand upon another; and his body, dressed according to the habit of his nation, in a white frock with a yellow sash, rested upon a third, in the middle, between the other two. The punishment of criminals for capital offences, in *Sweden*, requires that the right-hand be struck off, before the culprit is beheaded. We halted, for a few moments, to make a sketch of this fearful spectacle. Amidst the gloom and solitude of the forest, where the silence was that of death itself, it was indeed a sight that spoke terrible things. The body of a human creature thus exposed to birds of prey, by the side of a public road, can-

Mode of gibbeting Criminals.

(3) See the Vignette to this Chapter.

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not fail of affecting the mind of every passenger; and among the people it is, doubtless, productive of useful impressions[1]; but the enormity of the crime itself is almost absorbed in a feeling of pity, called forth by the exemplary nature of the punishment. And this poor *Finn*, it is said, had a father and a mother, who "watched, and toiled, and prayed" for him; whose good counsels were disregarded, until the awful moment arrived, when, faithful in its threatenings, the warning voice of Scripture was fulfilled: "THE EYE THAT MOCKETH HIS FATHER, AND DESPISETH TO OBEY HIS MOTHER, THE RAVENS OF THE VALLEY SHALL PICK IT OUT, AND THE YOUNG EAGLES SHALL EAT IT."

Brahestad.

At *Oljocki* we quitted the main road; and went, about five *English* miles, to *Brahestad*, a new and neat town, close to the Gulph, in hope of procuring medical assistance. This place seemed to be in a flourishing state; the furniture and appearance of the houses being better than usual in this country. It is a staple town, on a bay between two peninsulas;

(1) "Punishment (according to a striking personification in the *Hindoo* Code of Laws) is the magistrate; Punishment is the inspirer of terror; Punishment is the nourisher of the subjects; Punishment is the defender from calamity; Punishment is the guardian of them that sleep; Punishment, with a black aspect and a red eye, terrifies the guilty."—*Robertson's Historical Disquisition concerning Antient India*, p. 276. *Lond.* 1791.

exporting tar, butter, tallow, pitch, furs, fish, especially salmon, and deals; but in the whole, there are not more than 124 houses, and 225 families. The inn was a good one: we might be supplied with wine, beer, and almost any thing else that we required. Every thing, of course, was very dear. The master of the inn had been in *Scotland*, and spoke a few *English* words. Some of the merchants here could converse in our language. This, an experienced traveller will never consider as a very good omen; since imposition is never so frequent upon the Continent as in places where an *Englishman* finds persons very ready with their offers of service, who address him in his own language. A *German* surgeon was smoking and playing cards in the inn, when we arrived: finding that he was also consulted in the place as a physician, the author sent for him, to ask his advice respecting the inflammation in his throat. The *German* would not stir until his game was ended; but came at last, full of the importance of a new mode of cure, which, he said, he had adopted in all such cases: this was nothing less than that of painting the inside of the throat, by means of a camel's-hair brush, dipped in a kind of green paint, which he produced from his pocket. This ingenious project

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not exciting much confidence in the skill of the practitioner, was politely declined: he took care, nevertheless, to exact a considerable sum for the offer of his services; and the author, glad to escape so easily from worse consequences, paid him his fee, and left *Brahestad* the following morning. As soon as we regained the main road, we proceeded to *Luoto*. The country south of this place was as beautiful as the County of *Surrey*, which it resembled. A wide prospect of rich cultivated country extended on every side: in the midst of it appeared large farms, and husbandmen everywhere busy, with their families, getting in the harvest. The Court Uniform of *Sweden*, first introduced by *Gustavus the Third*, has often been considered merely as a fashion of his own invention; but it was, in fact, the national dress of his *Finland* subjects, as we have before described it. In this part of our journey, the same dress was universally worn by the peasants. The women, as in *Wales*, knit stockings walking along the road with burdens upon their heads. Near the rivers we observed flocks of wild geese. We changed horses at *Karialuoto*, *Infvala*, and *Heusala*; between which places the road winds in a beautiful manner through forests, with occasional views of the Gulph. Near *Heusala*, we saw

Appearance of the Country.

Origin of the Court Uniform of *Sweden*.

once more a field of *wheat:* not having noticed any *wheat* for such a length of time, since our first coming into *Sweden*, that we could not recollect where we had observed it before in the country. Here there is an inlet to the Gulph.

Between *Heusala* and *Roukala*, a breed of dogs resembling the *wolf*, like those we had seen in *Lapland*, was very common. There was not a house without one of these dogs, and sometimes three or four appeared in the same dwelling. Between *Roukala* and *Hihnala*, we left the province of *Uleå*, and entered that of *Wasa*[1]: the roads were as fine as the walks in any *English* nobleman's pleasure-ground. It was here that we took up some of the gravel used in making and mending them; having never seen any thing so perfect before. The scenery too was beautiful: the soil full of rocks. Opposite the Post-house at *Hihnala* we had a view of the open Gulph. From *Hihnala* to *Juntila*, a flat fertile country. The old churches of the country now occur in every village, forming very picturesque objects: they are all painted red. It would not be easy to name any style of national architecture that they resemble; but in *Switzer-*

(1) The boundary between the two provinces is marked by a painted Coat of Arms, placed like a sign-post on the road; and by an avenue cut through the forests, on either side.

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land, and the passes of the *Alps*, the ecclesiastical structures are, in many instances, formed after the same taste; the roofs being decorated with little iron crosses, balls, and other ornaments. The belfry is always a distinct building, separated from the church itself. Ladders affixed to the roof, and reaching to the ground, almost always appear: they are never removed, that they may be ready in case of fire. Some of the houses, also, have the same precaution: we had observed it at the Parsonage, near the new church in *Torneå*. If a hasty traveller were to judge of the population in this country by the number of houses in the villages, he would be greatly deceived: the houses are numerous; yet the greater part consist of empty buildings, looking like dwelling-houses, but being in reality mere repositories, belonging to peasants living remote from the spot, and constructed to afford them a lodging during their occasional visits to the church; or as warehouses for the merchants, in places where fairs are held. We began now to see once more chimneys upon the different dwellings; the outside of the houses being painted red; denoting a more advanced state of civilization, and greater wealth among the people. One of the most interesting sights which occur in this part of *Ostero-Bothniå* is

that of the *Finlander*, morning and evening, going to and returning from his occupation of fishing in the Gulph. Fine, tall, well-proportioned men are regularly seen at these hours, walking with bare legs and feet, carrying upon their shoulders knapsacks made of the matted bark of trees. We saw one this day strike out of the main road into a thick part of the forest, with such a load of fishes behind him as one would think might feed half a village; but the quantity devoured in a single family, at a meal, is prodigious. The *Laplander*, during his fishing excursions, will swallow an incredible quantity at a time; and, after gorging himself, have recourse to sleep, to enable him to digest his food: so, among the *Finlanders*, half a bushel is consumed by a single family at a meal.

Description of *Ostero-Bothniâ*.

Ostero-Bothniâ, comprehending several provinces, is the most fertile part of the *Swedish* dominions[1]. The farmers are remarkable for their neatness in agriculture: the land, after they have finished ploughing and harrowing, looks like a well-cultivated garden: it is laid out in borders, into which the seed is always drilled; and it is moreover kept perfectly free from weeds, all sorts of rubbish being carefully

[1] It is now in the possession of *Russiâ*.

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removed. The soil, like that on the *Surrey* side of *London*, is often full of stones; but it produces excellent crops. The *rye* was the largest we had ever seen: the *barley* alone was bad. We observed a few fields of *oats*, but they were not common; also *potatoe*-grounds, and plantations of *hops*, near the dwelling-houses; the last very common, generally about a quarter of an acre in each plantation. The *potatoe*-grounds had increased much of late, and were likely to become daily more abundant. Besides these, we saw, near the houses, fields of *turnips* and *tobacco*. Their usual mode of agriculture is this: they have two successive crops from the same land, and then it is summer-fallowed. The *rye*, sown in *August*, becomes ripe in the *August* following. These observations were made on the twenty-third of *August*: the *rye* was then up, and looking well. The manner of sowing is precisely the same as in *England*. We travelled this night as far as *Peitza*, where we rested: the house was neat, but its owners were poor.

Beginning of the Rainy Season.

August 24.—The weather began to change, and one of the finest summers ever known was drawing to its termination. The night had been tempestuous. Such had been the success of our journey hitherto, with regard to the weather, that, since we left *Cambridge* in *May*, we

had only two showers; one in *Holstein*, and another in going from *Stockholm* to *Upsal*: and as we were always exposed to the open air, journeying *sub Dio*, in waggons, carts, or boats, without cover or canopy, the circumstance is worth notice. We have been informed that the climate in *Sweden*, as in *Russia*, is so regular, that a traveller may rely upon the constancy of fine weather, either in *summer* or *winter*; the autumnal season alone being rainy. After leaving *Peitza*, the open Gulph appeared in a beautiful prospect: it was studded with islands, adorned with trees. Dingles, in which *tar* was manufactured, occurred frequently, in our first stage. The country was hilly, and covered with large rocks: the roads winding, but excellent. We had rocks and hills from *Peitza* to *Wittick*, and to *Gamla Carleby*: the last a town of more consequence than any we had visited north of *Gefle*. Some of the houses were painted red; a circumstance which it is proper to notice, because the gradations of civilized life are marked in this country by the increased or diminished number of the painted houses. Here, as usual, we observed two churches; one for the mercantile inhabitants; the other for the peasants. The streets are made at right angles, and they are twenty feet wide. The

Gamla Carleby.

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number of inhabitants is about fourteen hundred. The port is only accessible to vessels drawing twelve feet of water; but it has a place for lading near *Kalajocki*, to the north, where vessels are also built for sale[1]. Its exports are the same as those of *Brahestad:* but it has manufactories of printed cottons, tobacco, and some tanneries. The merchants are persons of great commercial importance. The Gulph being here narrow, and choked with islets, shallows, and sand-banks, several light-houses and good pilots are requisite to ensure a safe navigation. We waited upon Mr. *Ross*, to make some inquiries relating to the passage of the *Quarken;* intending to sail hence for *Umeå*. The word *Quarken* is *Swedish:* it signifies the *Choke*, or *Choking*. We found Mr. *Ross*, in company with his father-in-law, and one of the *Åbo* Professors[2], who was paying his addresses to the young lady of the house. They all advised us not to attempt the passage before we reached *Wasa;* because we could only hire an open boat; and the distance to *Umeå* being eighty-four *English* miles, the undertaking would be hazardous. The wind

(1) *Tuckey's Marit. Georg.* Vol. I. p. 325. *Lond.* 1815.

(2) Professor *Franzén*, the celebrated *Swedish* Poet of the University of *Åbo*.

moreover, at this time, being unfavourable, and wishing to see more of *Ostero-Bothniâ*, we determined to continue our journey on the eastern side of the Gulph, as far as *Wasa*. We visited some other of the merchants: the inside of their houses was neatly painted, and set off by glazed stoves for heating the apartments, and by the very unusual ornament, in this country, of paper-hangings. Something of the kind is particularly wanted in the northern provinces of *Sweden:* the walls, without this covering, consisting of bare trunks of trees, between which appears mouldering moss, sometimes a nidus of bugs, and always a place of retreat for spiders and other creeping insects. Want of cleanliness, however, must not be imputed generally to the *Swedes:* the filth, characteristic of *Italy* and of the southern provinces of *France*, is unknown even in *Lapland*. Difference of climate may, in some degree, account for this: but the *Swedes*, like the *Dutch*, are naturally prone to cleanliness, a virtue often disregarded in *France* and *Italy*. In *Ostero-Bothniâ*, the mixture, in the towns, of the *Finns* with the *Swedes*, and with the natives of other countries, prevents general remarks from being applicable to the manners and customs of the people. Literature is at so low an ebb, that it may be doubted whether any traces of it

State of Literature.

can be said to exist north of *Åbo*. Books of any kind are seldom seen: there are no booksellers; nor is it possible to meet with a single copy of the works of the few celebrated authors *Sweden* has boasted, in any of the private houses. We sought in vain for the *Flora Svecica*, and *Flora Lapponica*, of *Linnæus*: we might as well have asked for the *Korån*, and perhaps we should have found it sooner. In the little shops, old *Latin* authors sometimes appear, as waste paper; and the apothecaries, now and then, possess a copy of the *Flora Svecica*, as a kind of shop-book, which they find so useful, that they are never induced to sell it.

After leaving *Gamla Carleby*, we observed, by the road side, the finest plantations of *tobacco* we had ever seen. The luxuriant leaves of the plants were as broad as those of the largest cabbages. We changed horses at *Stora*. In our way, we met numbers of carts laden with barrels of *tar*, for exportation. From *Stora* we came to *Abbors*, a true *Finland* farm-house; the chambers large, and those prepared for the reception of strangers papered and painted. Here we found a family exceedingly numerous; the children strong, healthy, and of great beauty. They were all eating potatoes. Our journey, this day, lay through the richest part of *Sweden*: the busy

scenes of active life, which we everywhere saw, denoted a thriving population;—a rich harvest getting in; pitch manufactories; tar moving towards the Gulph; vessels lying off, ready to take in their cargoes; tub-makers;—such was the prospect of industry displayed, on all sides, as we came in view of *Ny Carleby;* affording the most pleasing and picturesque appearance of any town in *Sweden* or *Finland.* Its churches and light spires towering above the other buildings, and the whole rising above a winding river, in the midst of beautiful clumps of trees and hop-grounds, producing as fine hops as any in *England,* delighted us. We entered the town beneath an arch erected over the Custom House, with GIII, *Gustavus the Third,* inscribed above it, in honour of whom it was erected. The streets, however, are narrow and ill-paved: our little waggon had never been put to so severe a trial, as in the shaking and jolting we experienced in passing to the inn. The houses here are, almost all of them, in the ochre uniform of the *Swedish* towns. We made diligent search, at the apothecaries, and in the shops, for books; and found several, used as waste paper, for wrapping drugs and candles: they were *Latin* theological controversies, unworthy of a better fate.

Ny Carleby.

The next day, *August* 25, as we were going

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from *Ny Carleby* to *Minsala*, we saw a funeral procession. Excepting that the mourners were more merry than usual, and that the whole train moved in an irregular and disorderly manner, the appearance was the same that we see in *England*. This being *Sunday*, we met fifty carts at a time, with families hastening to church. From *Minsala* we came to *Aravais*. In this stage we observed the *Linnæa borealis*, still in flower. Our journey was enlivened by the occasional views we had of the inlets of the Gulph, and of the beautiful islands off the coast covered with trees. Here, as in *Angermanland*, it is customary for the women to sit astride upon their horses, exposing their bare legs to public view. Going from *Aravais*, to *Kofjoski* and *Murkais*, we had thunder-storms. *Fahrenheit*'s therm. 62°. The soil here produced *oats*, *turnips*, *flax*, and *cabbages*. Proceeding through *Satila* to *Wickas*, it rained the whole way. We met some of the prettiest girls we had ever seen, returning from church in carts. Leaving *Wickas*, we came to WASA. Just before we arrived at *Wasa*, we saw a superb white edifice fronting the road, which had been erected by the late king, *Gustavus the Third*. The peasants said it was a House of Parliament, and that there were two in *Finland*: the members reside at *Wasa*, or in the neighbourhood.

Wasa.

An inscription on the south side of this building informed us that it was erected in the twelfth year of the reign of *Gustavus*.

WASA (or perhaps *Vasa*, for so it is pronounced) has a romantic situation, in the midst of rocks and trees. It has seventeen streets, at right angles, and of great breadth. The number of families amount nearly to five hundred. It exports rafters, deals, pitch, tar, rye, butter, seal-oil, skins, and tallow[2]. Vessels of fir are constructed here for sale. It has two harbours, the old and the new. Here is a manufactory of woollen cloth, and some tanneries. *Tobacco* is cultivated, and prepared for use, in all the neighbourhood of this place. The *Swedish* language only is spoken. We could not find in *Wasa* a person capable of reading even the *Pater-Noster* in *Finnish*. The same prevalence of the *Swedish* language may be observed the whole way from *Ny Carleby* to *Åbo*. The streets are of great length, but have a deserted appearance: no person is seen moving in them. The Judge of the Province resides here: there is a Town-hall; and several good houses belonging

(2) *Tuckey's Marit. Geog.* Vol. I. p. 325. See also *Acerbi's Travels*, Vol. I. p. 239. *Lond.* 1802. for a more particular account of *Wasa*: and for the description of a Winter Journey from *Wasa* to *Uleåborg*, see Chap. XVII. of the same work.

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to the Counsellors. The Governor behaved with great politeness to us, and granted an order for boats to convey us across the *Quarken* to *Umea*. We determined to venture in the small open boats of the country, according to the custom of the peasants, who run in them from one small island to another, as the weather serves. Pheasants here were so common, that they were sent to our table both at dinner and supper. A pin-maker lodged in the room opposite to ours; and the noise of his wheels was a proof of his industry, as it continued, without any intermission, the whole time we staid. Sounds more musical attracted our notice to a performer on an instrument called a *Hummer*, or Half-harp, something like a guitar. The form of it was semicircular; the strings, eight in number, being all towards the diameter, and the air-hole nearer to the arch. Of the eight strings, half served, by their vibration, to supply a bass accompaniment to the air performed upon the other four. The instrument being placed on a table, the performer, playing upon the four strings, made use of two quills; pressing the strings in different parts with one of the quills, while he struck four of them with the other[1].

Musical Instrument called *Hummer*.

(1) Dr. *Fiott Lee* has a model of the *Finland* Lyre, called *Kandelet*, or The *Kendel*. It differs much from this instrument; but resembles it in having

Leaving *Finland* for the present, our observations upon this country and its inhabitants will not terminate here; as we shall have occasion to renew them, in the conclusion of this part of our travels, during our journey from *Stockholm* to *Petersburg*. We had now to cross the Gulph of *Bothnia*, and, after visiting the mountainous parts of SWEDEN, to traverse the whole of NORWAY. Upon the *twenty-ninth* of *August* we left *Wasa*, for this purpose; and went by land as far as *Iskmo*. It rained hard the whole day. We put up for the night in a wretched hovel by the water-side. At *Iskmo*, a grand wooden house was building, facing the sea, for the President of *Wasa*. Here we found the *Stone-bramble*, or *Rubus saxatilis* of *Linnæus*, which grows upon the sides of mountains and in stony places in the North of *England*, especially in *Yorkshire*, *Cumberland*, and *Westmoreland*. The *Swedes* call it *Tåg-bär*. The next morning we embarked in a very small open boat; and, with a favourable wind, attempted the passage of the *Quarken*. Having cleared the south-eastern side of the Isle of *Björkö*, or *Birch Island*, the wind suddenly veered,

Passage of the *Quarken*.

Isle of *Björkö*.

having only five strings, that which we have before described, in Chap. XII. of the preceding Volume, and as depicted in the *Vignette* to the same Chapter. The kind of Lyre modelled by Dr. *Lee* is always made of the wood of the *Al*, or *Betula alnus*: its length is commonly from 1¼ to 2¼ Swedish ells.

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and came with such violence against us, that we made little progress. While the boatmen were straining every effort to get clear of the land, we were driven so fast upon it, that, coming close to the shore, we determined to land, and visit an isle, the name of which, although inhabited, is hardly known, even to the *Swedes*. With this view, we set our feet upon the rocks, where there was neither habitation nor vestige of any human being; and keeping along the shore, accompanied only by a boy belonging to one of the boatmen, we found the coast covered with a variety of plants, curious, owing to their situation. The loose stones close to the sea were covered with the finest *raspberries*, wild *wood-strawberries*, and *red currants*; insomuch, that the boy gathered for us some gallons of this fruit, scarcely stirring from the spot where we landed[1]. Here we saw also *Glaux maritima*; which surprised us, as this plant belongs rather to a marshy, than to a stony soil. After coasting in this manner for about an hour, occupied in collecting plants, eating wild fruit, and admir-

(1) The manner in which the *Raspberry* is found in *Sweden* may afford useful instruction as to the most method of cultivating this plant. Of all places, it thrives best among *wood-ashes* and *cinders*; among the ruins, for example, of houses that have been destroyed by fire; and in those forests of *Sweden* that have been exposed to conflagration, or where the natives have kindled bonfires in the woods.

Quay of the Natives.

ing the wide prospect of the Gulph, we came in view of the little boat-houses and fishing repositories of the natives of *Björkö;* whose village, and only habitable spot upon the island, is distant about an *English* mile and a half from the shore. In the repositories are preserved all their nets, fishing-tackle, and salted fish; and these are the treasures of the wealthiest inhabitants of this little island; containing riches, which certainly, in their estimation, rank higher than the "wealth of ORMUS or of IND." Here also, in a building larger than any of the others, is kept the public barge; a vessel constructed of the trunks of unhewn trees, belonging to all the natives in common; but, like the proud *Gondola* of the *Doge* and Commonwealth of *Venice,* laid up in state and security, to be used only on great occasions. The fact is, that Government compels the inhabitants to have a boat of this kind in store, for the safe conduct of passengers across the *Quarken.* It is capable of containing about a dozen persons; but the passage in this boat is never made without risk, as it is only effected by running from one point of land to another, among the isles of the *Quarken:* if the least squall or foul weather come on, they make for the nearest point of land, whether inhabited or not, and

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Village of *Björkö.*

there wait for a change. We found a road here that conducted us through the dark forests of this island, to the village, consisting of about thirty dwelling-houses, scattered over a plain, partly barren and partly cultivated, according to the wants or caprices of the owners, in a confused and disorderly manner. The little wells near these houses are numerous; and, unlike those used in *Sweden*, are worked by means of a hand-tub, with a short pole, which they dip when they wish to raise water: the wells being so shallow, that the water rises in them nearly to the surface. Rather more distant from the village, there are several cultivated spots of land; but it is only within these few years that the inhabitants have been at the trouble of tilling the soil; and they were now beginning to reap the great advantage of their labour. Formerly, all the *corn* which they consumed was obtained from *Finland*, in exchange for *fish*; and this traffic is still carried on, though not to the extent it was formerly. So little did they dream of obtaining food from the earth, that they absolutely prohibited a stranger, who went and settled among them, from draining his land; urging, that it was a practice not only injurious to his neighbours, but prejudicial to all the inhabitants, because it carried off water

which heaven had sent. Such are the simplicity, the unaffected innocence of the natives, and their contempt of wealth, especially of landed property, that we shall, perhaps, best convey an idea of their character by briefly relating the history of the family of our host.

This man, to whose dwelling we were invited, was the younger of two sons of a native of *Björkö*, who possessed a considerable estate, in cows, horses, corn-land, &c.; and had a large house, with a good stock of household furniture. Upon his father's death, the elder son succeeded to all this property. Soon afterwards, the younger brother married: upon which, the elder made him this offer:—"Brother," said he, "you are now married, and will have need of what I possess, for the maintenance of your wife and family: take the estate, and the house, and all that our father left: I intend to lead a single life; only let me live with you, work when I please, and, if illness befall me, sit quiet at home, and look after the children." This proposal was accepted with the same simplicity in which it was made; the younger brother becoming the head and representative of the family. At the time of our coming, he had fourteen children; and we had the happiness of seeing, towards evening, his elder brother, who

had made this sacrifice, now far advanced in years, after a day of very hard labour in the fields. He was seated upon the ground, with a wooden bowl before him, in which, with a long upright pole, he was economically grinding tobacco-leaves and wood-ashes together, to make some cheap snuff. The little children of his brother's family, capering for joy to see their old playmate and benefactor returned from his work, were pulling his white locks, and dancing around him. Another of the children, not ten years of age, had a remarkable genius for music: a peasant of the island, with singular ingenuity, had made for a him a deal fiddle, upon which, in his rude way, he was performing the rumbling air adapted by the *Swedes* to their national dance. Afterwards he played several *Psalm* tunes, which he accompanied with his voice; unmindful, at the same time, that the shepherd son of *Jesse*, whose strains he so rudely carolled, "the greatest musician, the noblest poet, and the most consummate hero of all antiquity," had himself sung of that blessedness which descendeth "AS THE DEWS OF HERMON AND OF SION, UPON BRETHREN WHO DWELL TOGETHER IN UNITY."

The wind continuing unfavourable, we had the satisfaction of remaining one more day upon

the island. We visited all the inclosures; and found the *corn*, chiefly *rye*, in good order. The harvest was getting in, and, consequently, all hands were employed. The men wear the sort of fur caps which are often exposed for sale in *London* as travelling-caps: the same sort of cap is frequently worn in other parts of *Sweden* and *Finland*. The women wear their hair tressed *à la Grecque*, and bind a handkerchief about the temples. The rest of their apparel, in summer, consists only of a short cloth jacket, generally of a green colour, and a short petticoat; the feet and legs being bare. In going to labour, or returning home, they employ themselves, as in all their leisure hours, in knitting hose for winter wear: when thus engaged, they often carry burdens on their heads, like the women in *Wales*. Their jacket in winter is changed from cloth to sheep-skin, which is worn with the wool inwards. The number of cows on the whole island amounted to 315; and hence the population may be estimated; because, to use a saying of their own, they have "*a cow for every mouth*." There are also sixty-five horses upon the island. The number of children in every family was astonishing: many had twelve, and in some families there were more. When we expressed our surprise at this, they said—

Male and Female Peasants.

Population.

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"*Aye, this comes of eating so much fish:*" an opinion everywhere prevalent among the lower order of people in the maritime parts of *Europe*, whether true or false. The church resorted to by the inhabitants of *Björkö* is upon the neighbouring isle of *Replot*, which we passed in our way hither from *Iskmo*. If a person die, he is carried to that island for interment. Owing to this custom, we fell in with a very singular rencontre in the forest: two men, pacing as fast as they could, met us, with the dead body of an islander, in a coffin suspended lengthways between them from a pole: this they were to convey to the church, that it might be ready for the clergyman on *Sunday*, the day following. Their most favourite article of food is a kind of hasty-pudding, made of barley-meal and water: this is portioned out, hot, in large wooden bowls, and a lump of butter is placed in a hole in the middle of each mess. They all sit down together to this meal, each having his bowl and wooden spoon; and the quantity they devour is very great. The portion allotted to each man was as much as would fill a large hand-bason. This is the harvest pudding of the year, and it is considered as a feast. Their ordinary diet consists of hard *rye biscuit*, with *butter*, sour *milk*, and pickled *Strumming* (small fishes like ancho-

vies, the principal article of the *Björkö* fishery, and of their traffic with *Finland*). The same fish constitutes a main article of the food of the inhabitants on each side of the Gulph, both north and south of the *Quarken*. The vegetable productions of the Isle of *Björkö*, besides the *fir* and *birch*, which almost cover it, are, *rye*, *barley*, *potatoes*, wild *raspberry* and red-*currant* bushes, wood *strawberries*, and a variety of plants mentioned in a note, some of which are rare[1].

Vegetable Productions.

On the following morning, *September* the *first*, the wind being fair, we were summoned to embark in the public barge of the island. This, with difficulty, contained our little waggon, ourselves, and a large hog which the natives were desirous of conveying to *Umeå* for sale[2].

Voyage to *Umeå*.

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(1) We shall enumerate them alphabetically, without any regard to more systematic arrangement.

Antirrhinum linaria.
Arenaria rubra.
Cucubulus behen.
Glaux maritima.
Hippophaë Rhamnoïdes (*rarissima planta*).
Leonurus Cardiaca.—Grows also in the streets of *Wasa*.
Linnæa borealis.—In flower so late as the first of September.
Lychnis dioica.
Myosotis scorpioïdes.
Oxalis Acetosella.
Potentilla anserina.
——— argentea.
Ranunculus repens, flore pleno.
Scutellaria galericulata.
Sedum sexangulare.
Spiræa ulmaria.
Veronica Chamædrys.

(2) It was full grown; and, when fattened, might weigh from thirty to thirty-five stone: yet the sum they hoped to receive for it was not equivalent to fifteen shillings of our money.

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We lay-to at a small uninhabited island, entirely covered with red-currant bushes and raspberry trees, to take in stone for ballast; and then, hoisting sail, bore away for *Umeå*. We made the Islands of *Malskär* and *Walsörarne*, which we passed with a prosperous wind. There is a light-house upon one of them. Soon afterwards, we were entirely out of sight of any land, in the midst of the open Gulph. Here we were becalmed; and not quite easy as to our situation, in such an open boat, managed by unskilful pilots. Presently a breeze sprung up, and quickened apace, until it blew fresh, and we made the islands and coast of *Westero-Bothniå*. Passed the Isle of *Gadden*, which we left upon our right, and then entered more placid waters, among beautiful islets lying off the embouchure of the *Umeå* river. As we entered this river, the views were very pleasing. It rained hard; but upon either side of this broad river we saw sloping forests of fir, mingled with weeping-birch, extending to the water's edge. Higher up, the banks of the *Umeå* are much cultivated, and appear covered with farms the whole way to the town: every one of these farms has its own boat, and boat-house, by the side of the river. The town, with all the surrounding buildings, reaches to a considerable distance

along the river. The men who had accompanied us from *Björkö* told us that the inhabitants of their island, and of all the districts on each side of the *Quarken*, make this passage, in sledges, upon the ice, during winter.

We landed on *Sunday* Evening, and went to our former quarters at the inn. The accommodations were bad; the house being dirty, and its owners cheats; having literally nothing to sell, and yet making a high charge. The next morning, waiting upon Dr. *Nærën*[1], we made an agreement with him for a complete collection of all the plants found in *Lapland;* and purchased of him, for three hundred rix-dollars, his own valuable *Herbarium*, with a view to offer it to the University of *Cambridge*, upon our return. We also bought some curious books and papers which had belonged to *Linnæus;* and the exposition of his sexual system, in sheets, as it was published at the *Hague*. A Gentleman mentioned in *Coxe*'s Travels, who has published a Dictionary of the *Lapland* Tongue, with a *Latin* explanation of the words, gave us here a very antient Song used by the

Antient *Finnish* Rhune.

(1) Dr. *Nærën* was physician of the province; for which he had a salary allowed him by the Crown, of 300 rix-dollars per annum.

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Popular *Swedish* Air.

natives of *Finland*, particularly by the *Finnish* peasants in the neighbourhood of *Uleåborg*, where it is constantly sung[1]. One of the most popular Songs in *Sweden*, now become quite national, is that which is called POIKARNE, "The *Boys*," or "*Boyhood*;" written originally in *Finnish*, by Professor *Frantzën* of *Åbo*; afterwards translated into *Swedish*, and set to music by Dr. *Næzën*. In *Umeå*, the mere mention of it would make a whole company sing. The words are written in alternate rhyme, the first

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(1) This antient song is called the *Finnish Rhune*: it is a kind of boozing Catch, which the peasants sing of an evening, all over *Finland*. We shall first write the words of it according to the *Swedish* orthography, and afterwards as they are pronounced.

Jospa wanha Wänämöinen
Tämän tiedeisi tåhdexi
Tulis täsä Tuonelasta. [*Da Capo.*]

PRONOUNCED.

Yospa vanha vennimanen
Teymen theadasee toedexi
Tulis taysa Toannilasta.

ENGLISHED.

"If old WÄNÄMÖINEN knew this (i. e. *knew how jovial we are*), verily she would come hither from Eternity (i. e. *the other world*)."

WÄNÄMÖINEN seems to have been some female divinity held in veneration by the antient *Finns*. TUONELASTA may be allied to the *Lapland* word *Tuonenaimo*, which signifies "the other world."

The Song of the *Laplanders* has still more brevity: it consists only of the following words:

"Kaitetebbu Stalpeb abmas' Påtsoitem Pårret!"

PRONOUNCED.

"Kitetitapo Stalpeb apmas' Potsoitem Porret!"

"Let us drive off the Wolves, lest our Rein-deer be devoured!"

and third rhymes being dissyllabic[2]. It begins by the delights of boyhood, the warm attachments and unsuspicious friendships of youth, and proceeds by contrasting the gradual changes superinduced in manhood, when the dream is

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(2) POJKARNE,

AF

PROFESSOR T. J. FRANTZEN.

I.

Jag mins den ljufva tiden,
Jag mins den som i går,
Da oskulden och friden
Tätt följde mina spår;
Da lasten var en hexa,
Och sorgen snart forsvann;
Da allt, utom min lexa,
Jag lätt och lustigt fann.

II.

Uppå min mun var lojet,
Och helsan i mitt blod,
I själen bodde nöjet,
Hvar menniska var god;
Hvar pojke, glad och yster,
Var strax min hulde bror;
Hvar flicka var min syster,
Hvar gumma var min mor.

III.

Jag mins de fria fälten,
Jag mätt så mången gång,
Der ofta jag var hjälten
I lekar och i språng
De tusen glada spratten,
I sommarns friska vind,
Med fjerlarne i hatten
Och purpurn på min kind.

IV.

Af falskheten och sveken
Jag visste intet än,
I hvar kamrat af leken
Jag sag en trogen van;
De läga lömska kifven
Dem kände icke vi;
När orfilen var gifven,
Var vreden ock förbi.

v. Ej

CHAP. II.

gone, and reality ensues. In the moral, th
fore, it somewhat resembles *Gray*'s affec

V.

Ej skillnad till personer
Jag såg i nöjets dar;
Bond-pojkar och Baroner,
Allt för mig lika var;
I gladjen och i yran,
Den, af oss raska barn,
Som gaf den längsta lyran,
Var den förnamsta karln.

VI.

Ej sanning af oss doljdes
Uti förtjenst och fel;
Ovaldigheten följdes
Vid minsta kägelspel;
Den trasigaste ungen
Vann priset vid vår dom,
När han slog riktigt Kungen,
Och Grefven kasta bom.

VII.

Hur hördes ej vår klagan!
Vårt späda hjerta sved,
Vid bannorna och agan,
Som någon lekbror led
Hur glad att få tillbaka
Den gladje riset slöt!
Min enda peppar-kaka
Jag med den sorgne brot.

VIII.

Men, mina ungdoms-vänn
Hur tiden ändrat sig!
Jag Er ej mera känner,
I kännen icke mig.
De blifvit män i Staten,
De fordna pojkarne,
Och kifvas nu om maten
Och slass om tittlarne.

IX.

Med fyrti år på nacken
De streta i besvär,
Tungt i den branta backen
Der Lyckans Tempel är.—
Hvad ger då denna Tarnas
Så sökt i alla land?—
Kallt hjerta under stjernan
Gul hy och granna band.

Ode on the Prospect of *Eton College*. We have subjoined this Song, in the *Swedish* language, as translated by Madame MALMSTEDT; accompanied, at the same time, by a literal *Latin* Version, made by Dr. *Næzén* himself. Some *Swedish* friends requested of the author an *English* Ode in imitation of "*Pojkarne;*" that is to say, restricted to the same metre and manner of rhyming, and adapted to the same air, but with a different theme. They gave him for his subject, "ENTERPRISE:" and as this Poem has

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PUERI:

CANTILENA A DOMINA A. M. MALMSTEDT, UXORE DOM. CAR. LENNGREN, ASSESSORIS REG. COLLEGII A COMMERCIIS, SVECO IDIOMATE CONSCRIPTA, ET IN LATINUM AD VERBUM REDDITA A *D. E. N.*

Nobilissimis Anglis E. D. CLARKE *et* J. M. CRIPPS, *in tesseram amicitiæ,* D. D. D.

DANIEL ERICUS NÆZÉN, *Svecus.*

I.

JUCUNDUM illud tempus recordor,
ut heri hujus reminiscor;
quando innocentia et pax
vestigiis meis institerunt;
quando vitium fuit lamia,
et luctus propere evanuit;
quando omnia, præter lectionem meam,
facilia et læta comperui*.

* "Contentus modicis meoque lætus." *Mart.*

 II. In

CHAP. II.

since been rather generally circulated, although never before published, it is hoped that its intro-

II.

In ore* meo (labris meis) fuit risus,
et sanitas in sanguine meo;
in anima domicilium (suum) (sedem) collocavit (habuit) gaudium;
quisquis homo fuit bonus;
quilibet hilaris et agilis† puer
statim fuit frater meus fidelis;
quævis puella soror mea;
quæque anus mea mater.

* ——— "Tantum egregio decus enitet ore." *Virg.*

† "Oderunt agilem gnavumque remissi." *Hor.*

III.

Campos apertos recordor,
quorum spatia multoties sum emensus.
Ibi sæpe fui heros
in ludis et in cursu ‡:
(recordor alacres et) jucundos millia saltus
sub æstatis salubribus ventis;
cum papilionibus pileo affixis,
genisque meis purpureis.

‡ "Dum furor in cursu est, currenti cede furori." *Ovid.*

IV.

Fallaciam et dissimulationes
adhuc ignovi;
apud quemque ludi-sodalem
Amicum fidelem vidi;
longa dolosaque jurgia
plane ignoravimus.
Post infrictum colaphum
ira ‖ etiam fuit posita.

‖ "Ira procul absit." *Cic.*

v. Distinc-

duction here will not be altogether out of place. There is nothing *English* about it, excepting the

V.

Distinctionem nullam personarum
tempore jucunditatis vidi;
rustici pueri cum Liberis Baronibus
mihi pares* fuere.
Sub lætitia et ardore
agiles
is apud nos pernices pueros,
qui pilam altiori jactu verberabat
princeps fuit positus.

* "Pares cum paribus facillime congregantur." *Cic.*

VI.

Veritatem numquam occultavimus,
nec in merito, nec in errore†;
æquitatem servavimus
in minima jactatione globi ad conos.
Infans ille, male et fœde vestitus,
judicio nostro præmium tulit,
cum regem conorum humi rite prostravit
et comes (puer) frustra jecit.

† "Non omnis error stultitia est dicenda." *Cic.*

VII.

Quam luctus nostri jam tunc ne audiebantur,
(et) cor nostrum tenerum cruciabatur
animadversiones
ob contumelias‡ et verberationem,
quam quispiam sodalium sustulit!
quod fuit lætum recipere
gaudium, virga interruptum!
Unicam meam placentam conditam
regi (et) mœsto (porrexi).

‡ "Omnis animadversio et castigatio contumelia vacare debet." *Cic.*

VIII. At

CHAP. II.

mere composition: the taste, the rhythm, and form of the versification, is altogether *Swedish*.

VIII.

At —— Amici mei juventutis!
quam tempus se jam mutavit?
Ego vos porro ignoro*,
me item ignoscitis.
Facti sunt viri publici muneris,
olim nempe pueri,
et (inter se) nunc temporis rixantur de cibo,
et bellant de titulis honorum.

* "Nosmet ipsos noscere difficillimum est." *Cic.*

IX.

Quadraginta annis onusti †,
in nitendo maxima cura sunt,
gravique modo in colle præruptо,
ubi Fortunæ templum est (collocatum).—
Quid tunc dat hæc Virgo ‡,
per omnes regiones tantum quæsita?—
algorem cordis
algidum cor sub stella,
vultum luridum splendidasque torques ‖.

† ——"corpus onustum
Hesternis vitiis animum quoque degravat una." *Hor.*

‡ "Non solum ipsa Fortuna cæca est, sed eos etiam plerumque efficit cæcos, quos complexa est." *Cic.*

‖ "Vultu sæpe læditur pietas." *Ibid.*

We have thought it right to copy Dr. *Nærén*'s MS. exactly as we received it from him. Like all foreigners, among whom every *Englishman* is called *Milord*, he has dignified us with a title (*Nobilissimi*), to which we had no pretensions; but as nothing has been altered, even this was suffered to remain.

ODE TO ENTERPRISE.

I.

On lofty mountains roaming,
O'er bleak perennial snow,
Where cataracts are foaming,
And raging north-winds blow;
Where hungry wolves are prowling,
And famish'd eagles cry;
Where tempests loud are howling,
And lowering vapours fly:

II.

There, at the peep of morning,
Bedeck'd with dewy tears,
Wild weeds her brows adorning,
Lo! Enterprise appears:
While keen-eyed Expectation
Still points to objects new,
See panting Emulation,
Her fleeting steps pursue!

III.

List, list, Celestial Virgin!
And oh the vow record!
From groveling cares emerging,
I pledge this solemn word:—
By deserts, fields, or fountains,
While health, while life remains,
O'er *Lapland*'s icy mountains,
O'er *Afric*'s burning plains;

IV.

Or, midst the darksome wonders
Which Earth's vast caves conceal,
Where subterraneous thunders
The miner's path reveal;
Where, bright in matchless lustre,
The lithal flowers * unfold,
And, midst the beauteous cluster,
Beams efflorescent gold;

V.

In every varied station,
Whate'er my fate may be,
My hope, my exultation,
Is still to follow thee!—
When age, with sickness blended,
Shall check the gay career,
And death, though long suspended,
Begins to hover near—

VI.

Then oft, in visions fleeting,
May thy fair form be nigh,
And, still thy votary greeting,
Receive his parting sigh;
And tell a joyful story,
Of some new world to come,
Where kindred souls, in glory,
May call the wanderer home!

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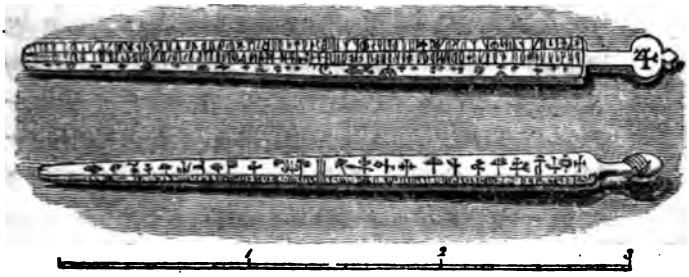
* *Crystals*, the blossoms of the *mineral* world; disclosing the na and properties of *stones*, as those of vegetables are made known by flowers.

RUNIC STAVES.



Scale of Feet.

CHAP. III.

FROM UMEÅ, TO MALMAGEN UPON THE NORWEGIAN ALPS.

Second Reception at Umeå—*Anecdote of Colonel* Steinbock—*Overwhelming Hospitality of the* Swedes—*Names of Rivers*—*Return to* Sundswall—*General Remarks on* Angermannland — Sundswall — *Cultivated Appearance of* Helsingland—Bergsiö—Dellen Lake—Delsbo—*Singular Adventure there*—Runic *Staves*—*Description of those Calendars*—*Written Rods of Sacred Scripture*—Llusdal—*Burnt Forests*—*Lichen Rangiferinus*—*Method of making and mending the Roads*—*Falls of* Laforssen—*Banditti of the Cataract*—*Price of Labour*—*Entrance of* Herjeådalen—*Nutritious Quality of the Reindeer Lichen*—*Other species of Lichen*—Ran Sion—*Employment of the* Lapps—Swedish *Wedding*—*Original Identity of the* Goths *and* Greeks—*Appearance of the Alpine Barrier*

Barrier — Resemblance to Switzerland — Luongosby — *Ingenuity of the Peasants — Their Hunting Occupations — Beggars unknown in* Sweden — *Condition of the Peasants — their Seizure of a Smuggling Cargo — Traditionary Origin of the Name of their Province — Grey Squirrels — Turnip Field on the Roof of a House — Beautiful Valley —* Funnesdal Sion — *Alpine Plants —* Malmagen — *Curious Fish — Extraordinary Rencontre — — Cause of the Prohibition of Coffee.*

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Second Reception at *Umeå*.

During the short time that elapsed after our return to *Umeå*, the *Swedish* hospitality was again displayed, in all its force. We experienced the greatest kindness and attention from all the principal inhabitants; and among these, the civilities and friendship shewn to us by Captain *Donnar* and Mr. *Thalin* ought to be more particularly acknowledged. As we had visited *Lapland*, we were regarded with an increased curiosity; which the more amused us, because they are themselves considered, in *England*, as a people belonging to *Lapland*, and they actually reside upon its frontier. The *Lapland* wizards are supposed to possess the art of *palmistry:* this being believed in *Umeå*, as we were now somewhat acquainted with the gossip of the place, we pretended also to have acquired the same art, and contrived to foretell events after the usual manner of all fortune-tellers; an expedient which afforded no small

degree of merriment while we staid. The only serious part of it was, that, among a people credulous in the extreme, some were not wanting who put more faith in our *cheiromancy* than we desired. Among others, there came to us a Gentleman who gravely and earnestly besought us to tell him, aye or no, whether he should survive his wife. It was in vain that we protested against the idea of any thing serious in our *manual divination:* he would not be satisfied without an answer. At last, to put an end to his importunity, as his wife was much older than himself, we told him we thought he would; but added, "You need not tell your wife this." Upon which, shrugging up his shoulders, he said, "*She knows it already: I have made the same inquiry before, of persons who understood palmistry, and received the same answer!*"

Raw salmon is esteemed as great a luxury in *Umeå* as it is in *Torneå*. Captain *Donnar* preferred it before any delicacy of the table. Throughout *Westro-Bothniå*, it is customary to ask for what are called "*sentiments*," in drinking parties, as in *England*. There is no *sentiment* more heartily hailed by the company, than one which contains some expression of sarcasm or ridicule against the *Danes*. An anecdote of Colonel *Steinbock*, when a prisoner in *Denmark*,

Anecdote of Colonel *Steinbock*.

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as related by Captain *Donnar*, whether true or false, will serve to shew the antipathy of the *Swedes* towards the *Danes*. They had used him very ill, during his confinement; but before he was fully liberated, he was permitted to go to Court. In his youth, he had amused himself in learning the art of making shoes. This was known to the Queen; who intending to pay him a compliment, desired to have a pair of shoes of his making, ready for a ball at court on the following evening. Colonel *Steinbock* assented, upon condition that her Majesty would provide the materials. This being done, the shoes were made and presented, and the Queen put them on. Finding, in the dance, that her shoes were all unsewed and coming to pieces, her Majesty exclaimed, "How now, Colonel! my feet are naked! The shoes were beautiful, but they are good for nothing!" "It is even so," said the Colonel; "but this is not more than I expected." —"And why?" rejoined the Queen. "Nay," added the Colonel, "your Majesty asks why, when the cause is evident—the work is *Swedish*, but the materials are *Danish!*"

Overwhelming hospitality.

The hospitality of the *Swedes*, which we have so recently mentioned as being overwhelming, is often exceedingly troublesome, especially in provinces remote from the capital. They are

never satisfied with the kindness they have shewn towards a stranger, unless they can compel him to eat until he finds it impossible to swallow another morsel: like some of our good housewives in *England*, who, if they perceive their guest with his head averted and an empty plate, thrust a heap of provisions under his nose, and insist upon his eating the whole of them. But in *Sweden*, when a guest is almost choked with such kindness, and unable to bear another mouthful, the importunity continues to a degree that is painful. In the morning of our leaving *Umeå*, we had some fearful encounters of this kind. We had been previously told, that it was expected, as a point of etiquette, that we should breakfast, upon the day of our departure, with every family from whom we had experienced any civility. We were therefore prepared; and knowing what sort of a trial we had to sustain, we took care, by previous fasting, to begin our business of *congé* with the best possible appetite. At all these houses, the benevolent owners had set forth as sumptuous an entertainment as their means enabled them to supply; each striving to outvie the other. Some of the mistresses of families had been up all night, making the preparation. We began with our kind friend Dr. *Næzén*, hoping to manage the matter, by

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eating a little with all: but this was soon perceived. Even our friend *Næzén* would not have it said that we had made an unfinished breakfast beneath his roof; and his wife joining her entreaties, to taste this, and taste that, the campaign was over on our part before we quitted his house. What was to be done? We had to run the gauntlet through all the other houses; and we consequently heard nothing but complaints and reproaches. The author in vain besought his friend Mr. *Cripps*, possessing better feeding powers than himself, to gratify them, if it were only by swallowing a fried pancake. It would not do. One lady actually shed tears; saying, "She had nothing good enough, no doubt, for us; although she had worked hard to welcome us in a proper manner:"—in fact, this lady had not ceased to bake, boil, and roast, during the whole of the preceding night; and we would willingly have forfeited ten times the value of her collation, rather than have heard her make this remark. After offering the best apologies in our power, we took leave of them all. Dr. *Næzén*, and Captain *Donnar*, accompanied us to the ferry over the *Umeå*. This river is here one thousand and eleven *English* feet wide[1]. By an error

(1) There are some fine *Cataracts* distant a few *English* miles from *Umeå*. Mr. *Cripps* saw one of them; a fall forty or fifty feet perpendicular

Names of Rivers.

common in *Swedish* maps, it is called *Umeå Elv*, as the *Torneå* is called *Torneå Elv*, which implies more than is necessary; the terminating diphthong *å*, pronounced *o*, in the words *Umeå*, *Piteå*, *Luleå*, *Torneå*, *Uleå*, &c. of itself signifies a river: thus *Umeå* means the river *Ume*. In *Swedish*, the word *Beck* signifies a *brook*, or small river; *å* signifies a middling river, neither very large nor very small; afterwards, *Elv* means a large river: but no accurate writer of the *Swedish* language, when the termination *å* has been added to the name of a river, would add the word *Elv*; because this is so evidently a pleonasm.

Return to *Sundswall*.

From *Umeå* we returned to *Sundswall*, by the road we had before travelled; that is to say, through *Angermannland*, and part of *Medelpad*; countries which may be called the *Switzerland* of *Sweden*. In *Angermannland*, the road is not shut up in forests, but passes along the sides of mountains, or through valleys, overlooking lakes and fertile planes, or beautiful scenes exhibited by inlets of the Gulph, surrounded by bold and lofty forests sweeping from the heights towards

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dicular; where the river was three hundred feet wide: and higher up, there was a much more considerable Cataract. The *Umeå* ceases to be navigable two *English* miles above the town.

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the margin of the waters. A painter pleased with the style of *Gaspar Poussin* might here find an endless variety of subjects for his pencil.

General Remarks on *Angermannland.*

But *Angermannland*, the grandest in picturesque beauty of all the provinces of *Sweden*, is also one of the richest. Its farmers are all yeomen, who cultivate their own estates, and will suffer no powerful lord, nor monopolizing autocrat, to reside among them. They are all in league together, to prevent any encroachment upon their little republic; refusing to sell any portion of their land, however exorbitant the sum may be which is offered for it. *Bears* and *wolves* are numerous here: we saw a *wolf* bold enough to cross the road, one evening, in sight of our carriage, in its way back to the forest, from a lake to which it had descended for water. They are prevented attacking the cattle, by the frequent blasts from the *lures*, or long wooden trumpets before described, which are in the hands of all the girls who attend upon the herds browsing in the forests. We frequently heard the sound of these trumpets; but chiefly towards evening, when the cattle were called home. Gentlemen travelling through this part of *Sweden*, during the summer, generally use a one-horse cart, made capable of containing a great deal of luggage, which is conveyed with great expedition.

The machines for stacking *corn*[1] were now everywhere filling, or full. The *corn*, being always cut before it ripens, remains suspended upon these machines until it becomes dry, when it is immediately thrashed. The business of thrashing is performed by spreading the sheaves upon boards, and driving a horse, and a cart with many wheels, to and fro over them. In this manner, according to their own mode of reckoning, a week's labour is requisite in thrashing about twenty tons of *corn*. Sometimes the cart, or thrashing-carriage, is made of *cast-iron:* but this is a late improvement. If made of *wood*, it is filled with stones, to increase the pressure. The *iron* carts have twenty wheels, and sometimes more. We were surprised to find the harvest so much later than in *Lapland*. From all that we had seen of the manners of the lower order of people *north* of *Stockholm*, we considered cleanliness as a universal characteristic of the *Swedish* poor. The cottages, generally speaking, are much cleaner than those of the poor in *England*. The language so nearly resembled our own, that they often understood what we said to each other, and we on this account found it easier to comprehend them. Some of the

(1) See the *Vignette* to Chap. VI. of the former Volume.

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customs reminded us of our own country, as did also the nature and form of their domestic utensils. At this time, new churches were building, in almost every parish, at the voluntary expense of the peasants. Between *Lefvar* and *Afva*, we dined with Mr. *Pauli*, whose *iron*-works we have before described[1]. This gentleman has introduced the use of *poultry* among the peasants. The low price of *charcoal* in this part of *Sweden* is the cause of the *iron ore* of *Utoën* being conveyed to such a distance from the mine. Just before we arrived at *Lefvar*, we saw, in the road, several *ptarmigans*, the most beautiful and delicious birds of *Sweden* and *Norway*: they are called *Sno-Ripa* by the inhabitants. An *American* gentleman, settled at *Lefvar*, passed the evening with us. He told us, that the use of the steam-bath, which we had found so general in *Lapland*, is common also to *Finland*, and prevails over all *Russia*. He had a *Finnish* servant, who became unhappy because he could not have the weekly steaming to which he had been accustomed from his infancy; and at last he quitted his service, owing to this circumstance.

Sundswall.

Sundswall is a thriving little town, and the

(1) See Chap. VII. of our preceding Volume.

capital of MEDELPAD: it contains about fifteen hundred inhabitants. The native inhabitants know so little of their own resources, that bold adventurers from other countries make rapid fortunes here. Many articles of commerce from *Holland*, *England*, &c. may be bought of the merchants, which cannot be had in *Stockholm*. Wood, charcoal, and other necessaries, are so cheap, that perhaps *Sundswall* is in many respects better suited for trade than the *Swedish* metropolis. A person possessing a small capital, with the smallest degree of commercial knowledge, might soon double it. Mr. *Mutzell*, to whom we were recommended, had established a *sugar* manufactory, a *malt-house*, and a warehouse for the *tobacco* trade, all in one building: this was formerly a distillery belonging to the Crown. *Gustavus the Third* sold it for 300 rix-dollars: it had cost, at the least, 1000. *Loaf-sugar* sold more reasonably here than in any other part of *Sweden*. Mr. *Mutzell*'s refining-house was capable of manufacturing one thousand tons, annually, of this single article, if there had been a sufficient demand for it. *Sundswall* sends out twenty-two ships of its own; whereas *Hernosand*, the capital of ANGERMANNLAND, with a greater number of inhabitants, has only twelve. The *Sundswall* ships sail to *America*, *Holland*, &c. In one year's

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voyage, with a ship of 300 tons, Mr. *Mutzell* made 25,000 rix-dollars; but in those voyages, where so much depends upon the honesty of the master of the vessel, the risk is great. Here we saw, again, the extraordinary sight of a bear chained as a dog in the yard, to be fattened and killed for food[1]. This animal devoured daily as much as would satisfy two hogs. There was nothing of which it was so greedy, as the molasses from the sugar-manufactory.

Sept. 10.—We left *Sundswall.* The scenery south of this place is the finest in *Europe.* In the third stage, after changing horses at *Gnarp,* we quitted the main road to *Stockholm;* suddenly turning round a church upon our right; when a magnificent prospect of the hills, vales, and forests of *Helsingland* opened before us. *Ostero-Bothniå* is not more highly cultivated, in any part of it, than are the rich valleys we passed through, after taking this *westward* route. At the end of this stage we descended towards the village of *Bergsiö,* situate upon a broad lake surrounded by *Alpine* forests, with a neat new church gracefully rising above the water. There is nothing in the Vale of *Keswick* superior to the scenery here. At this time, every thing con-

(1) See Chap. VI. of our preceding Volume.

spired to render our views of it the more delightful;—the busy labours of harvest; the crimson splendour of the sun, setting behind the distant mountains; the melodies of the peasants' pipes; the deeper and more-resounding tones of the *lure;* "and all that echoed to the song of Even;" gave life, and spirit, and gladness, to the scenery; making it altogether enchanting. The musical sounds which we heard, proceeded from a simple instrument, like the old *English* flute now out of use in our country—the pipe of the *Alpine* shepherds: it is common in the valleys of *Helsingland,* and seems to characterize a livelier race of men than the inhabitants of the more northern provinces. We slept in great comfort at *Bergsiö;* and the next day we passed a series of the finest landscapes the eye ever beheld; combining all the charms of agriculture with the most majestic features of uncultivated nature;—sloping hop-grounds, rich inclosures, farms, cottages, cattle, amidst the grandeur and magnificence of lakes and mountains; "the pomp of groves, and garniture of fields." We had not proceeded far upon our route, before a vast prospect of the *Dellen* lay before us. This beautiful lake is divided into two parts, north and south; called, respectively, *Norra Dellen,* and *Södra Dellen,* which are separated from each

Bergsiö.

Cultivated Appearance of *Helsingland.*

Dellen Lake.

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other by a narrow tongue of land; both together forming a piece of water fourteen *English* miles in length, and almost the same number in breadth. Its shores are thick set with farm-houses and elegant churches, backed by mountains covered with forests from their bases to their summits: its surface is studded with beautiful islets, adorned with rich woods of weeping-birch, mountain-ash, alder, and fir trees. In this stage we passed an iron-foundry, where the workmen were employed in manufacturing *bar-iron*, and *spike-nails* for ships. All the ore was from *Utoen*. Arriving at *Afholm*, distant about twenty-two *English* miles from *Bergsö*, we saw two coffins standing before the door of the post-house; one of which had been prepared for the late master of the inn, whose death was occasioned by the yellow jaundice, which is here called the *foreign fever*. Our next stage was along the borders of the DELLEN, passing round its western shore to *Delsbo*. The church makes a fine object, in the approach to it from the opposite side of the lake.

Delsbo.

We have before mentioned the occasional excess of *Swedish* hospitality; but an adventure befell us at this place, which, as it may shew to what a vicious extent this virtue is sometimes carried, it becomes our duty to relate. About

Singular Adventure.

half a *Swedish* mile before we arrived at *Delsbo*, we were surprised by the appearance of several Gentlemen assembled in the road, near a carriage belonging to one of the party; which, almost overturned, was standing in a ditch; prevented only from falling by leaning against the bank. They were evidently much heated, and apparently with liquor; some being on horseback, and others on foot. One of them, a coarse, corpulent, gruff-looking figure, having his neck and breast bare, was armed with a brace of pistols, which stuck out of his waistcoat-pockets: he rode up to us, and stopped our waggon. This event took place in the midst of a thick forest: and never was there a groupe better fitted to pass for a ferocious banditti, than the party which now collected round us, of whom this personage appeared to be the chief. Several voices demanded who we were, and whither we were going. Meeting with no answer to these interrogations, they insisted, in a boisterous manner, upon our joining their party, and going with them. We refused, and drove on; the wheels of our waggon nearly crushing the feet of one of them, who held fast, and continued frequently and imperiously to cry "*halt!*" Presently we left them in the rear; but a sallow-faced man, well mounted, with long bushy hair,

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and a patch on his face, galloped after us, passed our waggon, and, coming up with a cart in which sat our *Swedish* interpreter, ordered him to halt; and pointing to us, demanded "*Who are they?*" "English Gentlemen, Sir!" was the reply. "*Sa micka besser!*" said the stranger, loud enough for us to hear his words distinctly; when he galloped back, and again passed us, to join his party. In a few minutes, the whole gang came in full speed after us, and accompanied us to the post-house at *Delsbo;* when, to our dismay, we heard them prohibit the postmaster from putting horses to our carriage. As soon as we alighted, they followed us into a room: and shutting the door, fastened it, to prevent our retreating. Upon our requiring an explanation of this strange conduct, they all joined in requesting that we would go with them; entreating, in the most earnest manner, that we would not pass through their country without partaking of their hospitality, and promising to make a great rejoicing as soon as we should arrive at their homes. Weary with repeated refusals, and remonstrating upon this unexampled treatment, we made for the door; when, joining hands, they surrounded us, yelling a song, and dancing around us. We broke from them, however, and succeeded in forcing the door, and in

making our escape; but, taking the wrong road, were compelled to return, and to pass before the post-house, where we found the whole party assembled, quarrelling with our interpreter, and saying we had offered an insult to the whole *Swedish* nation, in refusing their invitations. During this altercation, we had nearly passed unheeded; but another, who had joined them, perceiving us, mounted his horse, and, overtaking us, asked, Whether we came as spies into the country; or in what other capacity, that might justify our neglect of all the rights of hospitality: saying we were bound to break bread and to drink with them, that we might learn how *Swedes* behave to strangers who enter their dwellings.—Being now convinced that these men had no evil intention, but that the whole was a burst of rude boorish hospitality, we assured him that we were fully sensible of his kind intentions towards us; but that our time would not allow of so much delay as must be caused by our accepting of the invitation: we therefore begged we might be permitted to continue our journey. Upon this, he renewed his remonstrances; adding, as all the others had done, an entreaty that we would accompany him to his house, which he said was hard by. At last we consented, upon his pledging his

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word of honour that horses should be put to the waggon, and be brought thither for us. We were conducted to his house; and, being shewn into a rather homely chamber, were no sooner seated, than all the rest of the party entered. They were very sulky at first, seeming to resent the preference we had shewn to our host. But brandy being handed about, they drank it like water, gave toasts, sang, and hallooed, until their spirits rising in Bacchanalian transports almost to madness, their good humour was restored. Finding that we collected plants, our host brought a large parcel of dried specimens from his own collection, and exhibited them to us. He told us that he was a Student of the University of *Upsal;* adding, "You will not complain of the time you were detained among a set of jolly *Swedes* in *Helsingland*, if I now shew you some of the antiquities of our country, which I collected during my rambles in *Medelpad*." He then produced several antient *Runic Staves*, such as are known in *Sweden* under the name of *Runic Almanacks*, or *Runic Calendars*. They were all of wood, about three feet and a half long, shaped like the straight swords represented in churches upon the brazen sepulchre plates of our *Saxon* ancestors. The blades were on each side engraved with *Runic cha-*

Runic Staves.

racters, and *signs* like hieroglyphics, extending their whole length. The *signs* were explained to us as those of the *months*, and the *characters* denoted the *weeks* and *days*. As we had long wished to see some of these *Runic Staves*, we no longer regretted the interruption we had experienced. Soon afterwards, our waggon arrived, and we were allowed to take leave of this eccentric party: the plants, the *Runic Staves*, and whatsoever else they could find which they believed might be useful or amusing to us upon our journey, were delivered into the custody of our servants; and shaking hands heartily with us, they bade us farewell. The delay which this adventure had occasioned, added to ill health, induced us to halt for the night at a small farm called *Norvanna*, about three *English* miles and a half from *Delsbo;* not without some fears of a second visit from the symposiacs we had left behind, before we should be able on the morrow to renew our journey.

The *Runic Staves* which had been given to us were afterwards exhibited at *Norvanna*, and in the different places through which we passed, in the hope of procuring more. We afterwards saw others; but they were always rare, and considered more as curious antiquities than things in actual use; although the inhabitants were

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well acquainted with them, and were often able to explain the meaning of the characters upon them, and the purpose for which these instruments were made; especially in this part of *Sweden*. They are also called **Rynstockes**, and **Primstaffs**: the words **rym**, a *number*, and **prym**, a *new moon*, which are still in use among the *Icelanders*, shew the origin of these names; the final syllables, **stocke** and **staff**, requiring no explanation[1]. Generally, but not always, they have the form of a sword of State, which is long enough to be used as a walking-staff[2]. We saw one of more elaborate workmanship, where the *Runic* characters had been very elegantly engraved upon a stick like a physician's cane; but this last seemed to be of a more modern date[3]. In every instance, it was evident, from some of the marks upon them, that their first owners were *Christians*; the different lines and characters denoting the Fasts and Festivals, Golden Number, Dominical Letter, Epact, &c. But the custom of thus preserving written records upon *rods* or *sticks* is

Description of the *Runic Staves*, as Calendars.

(1) See *Mallet*'s "*Northern Antiquities*," Vol. I. p. 303 (Note). *Edinb.* 1809. Also Mr. *Walter*'s Note in p. 127.

(2) See the *Vignette* to this Chapter, where two of these *Runic Staves* have been engraved, from the originals brought to *England* by the author.

(3) It is now in the possession of Mr. *Cripps*.

of the highest antiquity. There is an allusion to this custom in the Book of *Ezekiel*, where mention is made of something very similar to the *Runic staff*, in the following passage: "Moreover, thou son of man, take thee one *stick*, and *write upon it*, FOR JUDAH, AND FOR THE CHILDREN OF ISRAEL HIS COMPANIONS: then take another *stick*, and *write upon it*, FOR JOSEPH, THE STICK OF EPHRAIM, AND FOR ALL THE HOUSE OF ISRAEL HIS COMPANIONS: and join them one to another into one *stick*; and they shall become one in thine hand. And when the children of thy people shall speak unto thee, saying, Wilt thou not shew us what thou meanest by these? say unto them, Thus saith the Lord GOD; Behold, I will take the *stick* of JOSEPH, which is *in the hand* of EPHRAIM, and the tribes of Israel his fellows, and will put them with him, even with the *stick* of JUDAH, and make them one *stick*, and they shall be one *in mine hand*. And the *sticks whereon thou writest* shall be *in thine hand* before their eyes." Few of our *English* commentators upon the *Bible* would have expected to find in the forests of *Scandinavia* an illustration of the text of a Prophet who wrote upon the banks of the river *Chebar* in *Mesopotamia*; and it may serve to shew the utility of an attention to antiquities in the exa-

Written Rods of Sacred Scripture.

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mination of the sacred Scriptures. That the *written sticks*, mentioned by *Ezekiel*, were similar to the *Runic Staves*, will appear more evident in the meaning of the word *Rune*, which, according to *Wormius*, signifies either Run a *furrow*, or Ren a *channel;* because the *Runic* characters were cut in channels, upon wood or stone; and thus inscribed or written[1]. But the allusion to such *written staves*, in *Ezekiel*, is not the most antient document which refers to this practice. Nearly nine centuries before the age of *Ezekiel*'s prophecy, *Moses* was commanded to take of every one of the children of *Israel* "a *rod* according to the house of their *fathers*, of all their *princes* according to the house of their *fathers* twelve *rods*," and to write "every man's name upon his *rod*, and *Aaron*'s name upon the *rod* of *Levi:*" and it is added, that "one *rod* shall be for the *head of the house of their fathers*." We may now see how satisfactorily the use to which these *written rods* were in after-ages applied is illustrated by the *Runic Staves*, which have generally the form of a *sword* or *sceptre;* being the ensigns of office and dignity borne in the

(1) Vid. *Worm. Lit. Run.* p. 2. 1636. We have a similar use of the word *run* in some of the southern counties of *England*, where it is provincially applied to signify a *gutter* or *channel*.

hands by the priests, the elders, and princes of the people. The *recurved rods* of the priests among the *Greeks*, and the *crozier* of a modern bishop, had the same origin. The written memorials upon those rods among the *Eastern* nations were principally *perpetual Almanacks*; the use of which, in recording astronomical observations, religious fasts and festivals, lucky or unlucky days, &c. &c. may be traced from the simple *Runic staff*, and the more elaborate *Almanacks* of the *Turks* and *Arabs*, to the cylindrical terra-cotta *Calendars*[2] of the *Babylonians*, the *written sticks* of *Ezekiel*, and the *rods* of the *Israelites* in the time of *Moses*[3].

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(2) Commonly called *Babylonian bricks*. A beautiful example of this kind of *Calendar* is preserved in the Library of *Trinity College, Cambridge*.

(3) After the author's return to *England*, having shewn the *Runic Staves* to his learned friend the Rev. *Henry Walter*, of *St. John's College, Cambridge*, now Professor of Mathematics at the *East-India College*, near *Hertford*, he received from that gentleman the following observations upon two of them, together with his own explanation of the *Runic symbols*.

"The *Runic characters* are cut into the two sides of several wooden swords, so as to form a *Perpetual Almanack*.

"'Sulcos aratro ductos priscâ et nativâ voce Runer etiamnum dicunt 'nostri. Quos cum elementorum ductus lapidibus et cautibus incisi 'sculpebantur, non incommodâ metaphorâ eo vocem transtulerunt ac lite'ras suas *Runer* vocarunt.' (*Olaus Wormius de Lit. Runicâ*, p. 3.) The instrument itself is called a Runstocke, or *Primstaff*. The words run, a *number*, and prim, a *new moon*, which are still in use among the *Islanders*, shew the origin of these names; the final syllables, *stock* and *staff*, requiring no explanation.

"The

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Our route from *Novanma* lay through forests as antient as the world, by the side of several

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" The central line is formed by a repetition of the seven first letters of the *Runic* alphabet; the lower line is formed by the Cycle of the Golden Number; and the upper space is ornamented with crosses, or the peculiar emblems attached to the different festivals of the *Danish* or *Swedish* Church.

" The first day marked on one of the swords is the 15th of April, being the day after the festival of *Tiburcius*. 'Sunt et alii fasti,' (says *O. Wormius*) 'Norvagis jam in usu, qui a die Tiburcio sacro, quem *Sunnr* 'Sumarbage, seu primum æstatis diem appellitant, annum inchoant.— 'Pari modo diem Calixti, qui XIV Octob. hyemis præbet initium, *Sunnr* 'Vinterbal vocant, quod post eum dies a noctibus longitudine superentur.' This 15th of April has the Hagl, or 7th letter of the *Runic* alphabet, for its Golden Number and Dominical Letter; and on the following day, the regular series of seven letters commences with ᚨ or F, the first *Runic* letter.

' The Golden Numbers being nineteen, and the *Runic* alphabet containing only sixteen letters, it has been necessary to add three new characters. Thus 17 is expressed by the mark ᛊ, 18 by ᛝ, and 19 by ᛞ.

' It must however be observed, that the letters are frequently inverted, and otherwise corrupted by the carelessness of the artist; and that, of the Dominical Letters, the Hagl or ᚺ, is the only one which constantly preserves its proper place.

' The first festival which occurs, is that of *St. George*, marked by the cross placed over the Dominical Letter of his day. The 2d cross distinguishes the festival of *St. Mark*. The 3d, *St. Philip and St. James*. 4. *The Invention of the Cross*. 5, I suspect to be the '*Sanctorum Rus-* 'tici sacrum,' mentioned by *O. Wormius*, as being '*sportulâ seminarii* 'mensium, hac etenim *septimana hordeum opportunè terræ committitur*.' 6. *Tiburcius*, whose festival the same author mentions, as distinguished '*tripici cruce granis frumenti Saracenici; id enim genus frumenti hoc* '*tempore terræ mandare assolent*.' 7. *Marcell. Petrus*. 8. *Bonifacius*. 9. *Pr. Felicianus*. 10. *Cirianus*. 11. *Butolfus*. 12. *Nativity of St. John the Baptist*. 13. *St. Peter*. 14. *Visitation of the Virgin*. The festivals of the Blessed Virgin are always marked, either by a *crown*, or the branch of some evergreen; as here, by a *branch of fir*. 15. A *rake and scythe* to point out the *hay season*. These emblems are frequently placed over 16, the day of *St. Margaret*. 17. *Mary Magdalen*. 18. *St. James*. 19. *St. Olaf*, who was slain with a Norwegian axe. 20. *Stephanus*. 21. *St. Lawrence*, with his usual emblem. 22. *Assumptio Mariæ B. V.* 23. *St. Bartholomeus*.

lakes, surrounded by lofty rocks, or by mountains, whose crumbling constituents, exhibited

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bonus. 24. *St. Ægidius*, with a *fleece*, to mark the season for *shearing sheep*. 25. *Nativity of the Blessed Virgin*. 26. *Holy-Cross day*. 27. *St. Matthew*. 28. *St. Michael*, with a *balance* as emblem. 29. *St. Mark*. The Summer side finishes with the 13th of October.

"Upon the remaining or Winter side of this sword, the order of days proceeds from the bottom to the handle of the instrument. From the 1st of January, the Dominical Letters will necessarily differ from those which occur in common Calendars; because the 31st of December and 1st of January will not here have the same Sunday Letter.

"The 1st day is the Festival of *Calixtus*; and the emblem of his day may perhaps be here, as it is said to be elsewhere, a *fur glove*, to prepare against the approaching cold. 2. *St. Ursula*. 3. *St. Simon and St. Jude*. 4. *All Saints*. 5. *St. Martin*. 6. *St. Clement*. 7. *St. Catherine*, with her *wheel*. 8. *St. Andrew*, marked by his peculiar *cross*. 9. *St. Barbara*. 10. *St. Nicholas*. 11. *Conception of the Blessed Virgin*. 12. *St. Lucia*. 13. *St. Thomas*. 14. *Tauladaghr*, or *Christmas-day*. 15. *Circumcision*. 16. *Epiphany*. 17. *St. John*. 18. *Prisca*. 19. *Kindelmess*, or *Purification of the Blessed Virgin*. 20. *St. Blasius*. Of his emblem I find it observed, '*Blasii dies cornu, quod inflari aptum, signatus, ut ad nomen ipsum hoc signo fiat allusio.*' 21. *St. Peter's Enthronement*. 22. *St. Mathias*. 23. *St. Gregory*. 24. *St. Gertrude*. 25. *Annunciation of the Blessed Virgin*. 26. *St. Tiburcius*, with a *plant in leaf*, as emblem of the Spring.

"What festivals the other marks may allude to, I have not been able to discover. The names *Tauladaghr*, or *Yule-day*, and *Kindelmess*, may remind us of some provincial terms; and the allusion which a *horn* is said to have to the name of *St. Blaise* may serve to shew the Northern origin of this word *Blast*.

"The next is a simpler instrument, of the same kind, shaped like a *sire*. The Cycle of Golden Numbers is here omitted; but the Sun's progress among the Signs of the Zodiac is frequently noticed; and some notches on the back and edge of the sabre may perhaps have served to point out *lucky* or *unlucky days*.

"The year of this *Calendar* begins with the 1st of January. *Olaus Vormius*, who thought these *Rymstockes* of such consequence as to deserve the labour of a tedious volume, laments, in pathetic terms, that his countrymen

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by loose masses of *granite*, were tumbled in all directions, among which sprouted the most

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countrymen alone should have differed among themselves as to the commencement of their year. It might have been some consolation to him, to have known that the learned Court of *Rome* dated *Briefs* by years, beginning '*a Nativitate Domini*;' and *Bulls* by years, commencing on the 25th of March: whilst probably any Papal history would have its chronology regulated by a third, or the vulgar, commencement of the year.

"1. The *Circumcision*. 2. *Epiphany*. 3. *Canute*. 4. *Felicis*. 5. *Agnes*. 6. *St. Paul's Conversion*. 7. The *Purification*, or *Candlemass*, marked by a *candelabrum*. 8. The *Sun* in *Pisces*. 9. *St. Peter's Enthronement*, with a *crozier*. 10. *St. Mathias*. The three next emblems may have some reference to the employments of the season; or the last of the three, to the *Sun* in *Aries*. 11. *Annunciation of the Blessed Virgin*. 12. *St. Tiburcius*. The change from Summer to Winter, on *St. Calixtus*'s Festival, is marked by the same emblem. 13. *St. George*. 14. *St. Mark*. 15. *St. Philip and St. James*. 16. *Invention of the Cross*. 17. *Nereus and Achilleus*. 18. *Sun in Gemini*. 19. *Urbanus*. 20. *Cirianus*. 21. *Sun in Cancer*. 22. *St. John the Baptist*. The last day is June 27.

"Upon the remaining side of this second instrument, the first festival is that of *St. Peter*; but his emblem is so nearly worn out, that a complete figure of it cannot be given. 2. The *Visitation of the Blessed Virgin*. No. 3. is of importance, as fixing limits to the age of this sword. '*Margaretæ dies* (says *O. Wormius*) *rastro signatus; fænum enim versandum, caloribus Solis exponendum et colligendum monet. Hunc diem moderni Calendariographi, præter decretum Cisio Jani, non sine insigni operum rusticorum et Nundinarum perturbatione in 13 Julii transtulerunt, de quo passim conqueruntur Agricolæ.*' As the *rake* is in this case placed over the 13th of July, this *Rymstocke* is of a kind considered as new in 1643 *. No. 4. points out the Festival of *St. Mary Magdalen*. 5. *St. James*. 6. *St. Olaus*. 7. *St. Lawrence*. 8. The *Assumption of the Blessed Virgin*. 9. *St. Bartholomew*. 10. *St. John the Baptist* beheaded. 11. *St. Ægidius*. 12. *Nativity of the Blessed Virgin*. 13. *Holy-Cross day*. 14. *St.*

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* As a confirmation of this remark of Mr. *Walter*, it should be mentioned, that there is a date cut upon the edge of another of these *Runic staves*, where the year 1652 (the figures being written in this manner) is inscribed.

luxuriant trees, until we arrived at *Ljusdal*. The inn here may rank among the best that we had seen north of *Stockholm*. Every thing was clean and good of its kind. The peasants, rich and well-dressed, seemed to belong to a healthy and a happy people. The weeds of one country are, of course, the garden-plants of another: accordingly, we found the common *poppy*, and *night-flowering catch-fly* (*silene noctiflora*), cultivated with care, as ornaments of the little garden of this inn. From *Ljusdal* to *Grafven*[1],

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14. *St. Matthew*. 15. *Michaelmas-day*. 16. *St. Mark*. 17. *St. Dionysius*. 18. *Calixtus*, and the commencement of Winter. 19. *St. Luke*. 20. *St. Simon and St. Jude*; emblem, a *boat*. 21. *All Saints*. 22. *St. Martin*. 23. *St. Brigitus*. 24. *St. Clement*; emblem, a *tiara* surmounted by a *cross*. 25. *St. Catherine*. 26. *St. Andrew*. 27. *St. Nicholas*. 28. *Conception of the Blessed Virgin*. 29. *St. Lucia*. 30. *St. Thomas*. 31. *Nativity of our Saviour*. 32. *St. Stephen*. 33. *St. John*. 34. is called, in another *Runic Calendar*, Barnadagh, or the *Children's day*.

"If we stop at the letter |, the year will contain only 364 days: but I imagine that the remaining characters, above and below the regular line, are intended to point out, whether an addition of one or two days is necessary."

(1) "At *Grafven*, which is in the parish of *Farila*, we changed horses. I observed, opposite to the church, a post erected, with a box fastened to it, to receive alms for the poor. The following passage, from the *Swedish* Version of *St. Matthew's* Gospel, was inscribed above the box:

JAG WAR HUNGRIG, OCH J GÅWEN MIGATA:
JAG WAR TORSTIG, OCH J GÅWEN MIGDRIKA:
RAKOT, OCH J KLADDEN MIG.

Matt. XXV. 35, *och* 36.

"The Church was a very neat building, and stood upon an eminence commanding a beautiful prospect of the country."

Cripps's MS. Journal.

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we journeyed by the side of the *Ljusdal* river, through forests as before, but in a level country with good roads. Immense sandy tracts, thinly planted with fir-trees, occurred between *Grafven* and *Kårbole Capell;* a distance equal to twenty-eight *English* miles, without a relay. The *Lichen rangiferinus*, white as snow, covered the ground under all the forests; but a more extraordinary sight was presented, in consequence of the dreadful conflagration which had here taken place. We journeyed for leagues and leagues among the trunks of trees all charred by the action of fire, black and denuded, like one vast wilderness of charcoal. Between their widely-separated stems, the eye roamed to very distant objects; but all had the same dreary and barren aspect;—a more singular or more striking scene can hardly be found. We seemed to be the only living beings who had ever penetrated this region, desolated and scathed by Heaven's lightning[1], as if doomed to exhibit the first feature of that fiery visitation, when "the earth, and the works that are

Lichen Rangiferinus.

(1) *Milton* has finely alluded to this effect of lightning:—

——— "As when Heaven's fire
Hath scath'd the forest oaks or mountain-pines,
With singed top, their stately growth, though bare,
Stands on the blasted heath."

therein, shall be burnt up." Yet in this forest, blasted and sterile as it appeared, we afterwards met 130 cows, preceded by a buxom blooming lass, who was sitting astride on horseback, singing the most beautiful notes, in cadences, by way of calls to the cattle: a male peasant, also on horseback, playing on his pipe, closed the rear. We have before mentioned, that when the *Swedish* or *Lapland* cows are fed with the *Lichen rangiferinus*, which is here so abundant, their milk produces richer cream than is perhaps known elsewhere in any country. This kind of *Lichen* might as easily be collected, and sent to *England*, as *hay*: therefore the time may come, when our wealthy breeders of cattle (among whom at present rank some of the *English* nobility) will try the effect of importing this species of fodder. It grows best in the most barren soil, and often has a very slight savour of turpentine; flourishing principally beneath pine-trees, and best of all where those trees have been burnt by fire[2].

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(2) "Dum sylvæ *fulminantis Jovis ira* accenduntur, integræque comburuntur, remanet sicca et nuda terra, mox ubi aliud vegetabile crescere recusat, ubi alia planta nutrimentum non reperit, luxuriat hic *Lichen rangiferinus*, elapsis aliquot annis integros hos occupat campos, et post sex vel plurium annorum decursum justam acquirit altitudinem."

Linn. Flor. Lapp. p. 332. Amst. 1737.

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Method of making and mending the Roads.

In the middle of this forest, we came to a single house, where peasants were assembled to fix and measure the different portions of the road which it befell them respectively to repair and to keep in order. This plan of making and preserving the public ways, universal in *Sweden* and *Denmark*, might also be imitated advantageously in *Great Britain*. Although, perhaps, wanting the requisite materials, we might never expect to rival *Sweden* in the excellence of her highways: yet if the same degree of emulation were excited, either by rewards or honours, among those who have the care of the roads in *England*, as it exists among the *Swedish* peasants, each trying to excel the other in the beauty and excellence of the portion of road which it is his lot to superintend, a very great improvement might take place. We took some pains in making the inquiry; and we everywhere found that it was principally to this emulation that the perfection of the *Swedish* highways ought to be ascribed. While our horses were resting at this solitary inn, called *Lesse Krog*, signifying a *public-house*, we proceeded on foot, turning out of the road towards the right, to visit the stupendous Cataracts of the *Ljusdal*, called *Laforssen*. Here we must lament, as usual, the impossibility of describing what even the best

Falls of *Laforssen*.

pencil would but inadequately represent. The Falls of *Laforssen* are much greater than those of *Trolhætta*. A rising white vapour seen among the trees, together with the roaring noise which it occasioned, bespoke its violence before we reached the spot. As soon as we came in view of it, we saw the river divided into two channels by an island of black rocks, rushing in curling volumes of foam down a steep of forty or fifty feet. This was the fall of the nearer branch. Upon the farther side of the island there is a cataract of greater height and magnitude. The principal shoot on that side is made from a precipice with such impetuosity, that persons may pass and repass beneath the projected torrent without difficulty or danger. The peasants who accompanied us related a tale of banditti, who long carried on their depredations undiscovered, because they made this torrent their place of concealment; being always hid beneath the arch of the Cataract. What banditti could find for plunder, in a part of the country almost uninhabited, and where few travellers ever come, must be left to the imagination of those who tell the story. But throughout *Europe*, a cavern without some traditionary tale of banditti would be almost as rare an occurrence as a castle, a convent, or a monastery, without a subter-

Banditti of the Cataract.

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raneous passage. The peasants of the neighbouring district had made several ineffectual attempts to blow up the rocks of *Laforssen* with gunpowder; that, by diminishing the force and height of the cataract, their *salmon* might be enabled to visit them higher up the river. We continued our journey through this vast forest, to *Kårbole*, a wretched hovel, where we halted for the night. The aspect of the country reminded us of *Lapland*; and the inhabitants wore the *Lapland* sandals, made of the matted bark of trees. The internal appearance of the dwellings was nearly the same as upon the banks of the *Muonio*, with less of cleanliness. Throughout *Helsingland*, a love of finery prevails among the peasants; the women wearing gaudy flowered vestments, and the men scalp-like caps made of blue and red-coloured cloth, patched in this manner;

preserving, as to their form, the fashion of the caps worn by all the ancestors of the *Goths*, and especially by that branch of them which has left memorials of their habits and customs upon

Price of Labour.

the most antient medals of *Greece*. The daily price of labour in *Helsingland* is twelve *Swedish* shillings (ten-pence *English*), if food be not allowed; but labourers receive only sixpence *English* each day, if they be fed by their employer: they are rarely permitted to work by the gross. The land is manured once in two years; but upon the borders of *Herjeådalen* more frequently, because it is there very poor: it is brought round by the following order of cultivation: first, *rye;* then, *barley;* afterwards, *oats, peas*, &c.: then it is fallowed, and used, for for some time, as pasture land.

Sept. 13.—We left *Kårböle*, and came to *Kålsätt*, in *Herjeådalen*. In the forests, upon rocks of red *granite*, near the road, the *Lichen corallinus*, or *Coral Moss*, appeared in surprising beauty and luxuriance: the vermilion colour round the lips of the seed-vessel was so brilliant, that it seemed as if red sealing-wax had been melted upon them. We brought away specimens, which have been preserved with their colour unaltered, by pouring hot pitch into the bottom of a wooden box having a sliding lid, and sticking the *Lichen* into the melted cement, which became fixed as it cooled; when, closing the lid, it was easy to convey the most brittle *Lichens* without the slightest injury. In these

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Lichens, the gradations of colour, from white to brown, black, and red, were very remarkable: sometimes all these gradations might be observed upon the same specimen. The red colour was always the most vivid where the red *feldspar* of the *granite*, upon which the plant grew, was most predominant. With the same species of *Lichen* we found the *Lichen deformis* and *Lichen rangiferinus*, all growing together: in fact, it was a region of *Lichens*; the country being very poor, and the rocky soil bidding defiance to cultivation. But we began to perceive that a most abundant gift of Providence, although entirely neglected by the inhabitants, excepting as fodder for their cattle, was here presented in the *Lichen rangiferinus*. This beautiful ornament of the *Lapland* and *Swedish* forests is largely described by *Linnæus*, in his *Flora Lapponica*[1].

Nutritious Quality of the Rein-deer *Lichen*.

That any animal should make this kind of moss his favourite food, and fatten upon it, at first surprised us; because we judged of it from its appearance in the hot months, when it is dry and brittle: but the plant, when eatable, is

(1) "Hi Lichene obsiti campi, quos terram damnatam diceret peregrinus, hi sunt Lapponum agri, hæc prata eorum fertilissima, adeo ut felicem se prædicet possessor provinciæ talis sterilissimæ, atque Lichene obsitæ." *Flor. Lapp.* p. 332. *Amst.* 1737.

damp, and therefore in a very different state. The rein-deer take it from beneath the snow, when it affords a most delicious diet; being at the same time both meat and drink to them. Towards this month of *September*, we first observed the change that was taking place in this species of *Lichen*. We then found it soft, tender, damp, and capable of being compressed, like other plants for our herbary, between the leaves of the books we carried with us for this purpose. In this state its appearance was so tempting, that, when frseh gathered, we ventured to taste it ourselves. Its luxuriant and flowery ramifications somewhat resemble the leaves of endive, and are as white as snow. To our surprise, we found that we might eat of it with as much ease as of the heart of a fine lettuce. It tasted like wheat-bran; but, after swallowing it, there remained in the throat, and upon the palate, a gentle heat, burning, as if a small quantity of pepper had been mixed with the *Lichen*. We had no doubt that, if we could have procured oil and vinegar, it would have afforded a grateful salad. Cooling and juicy as it was to the palate, it nevertheless warmed the stomach when swallowed, and cannot fail of proving a gratifying article of food, to man or beast, during the dry winters of the Frigid Zone.

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Yet neither *Lapps* nor *Swedes* eat of this *Lichen*. Finding it to be so palatable, we persuaded our servants to taste it; and, after experiencing the same effects from it that we had done, they began to eat it voluntarily. Upon this, we asked the peasants why they neglected to make use of so important an article of food, in a land so sterile as that which we were now traversing. They told us, that when *Gustavus the Third* succeeded to the throne, an edict was published and sent all over *Sweden*, recommending the use of this *Lichen* to the peasants in time of dearth; and they were advised to boil it in milk. Now and then, they said, a few of the indigent poor had made it serve as a substitute for bread; but being unaccustomed to such food, they generally rejected it. We know very well, in other countries, what the effect of prejudice and habit is with regard to articles of food. When *Potatoes* were first introduced into the County of *Sussex*, one of the *Pelham* Family[1], (to whom the poor of that county were indebted for this

(1) The *Pelham* interest was fairly sung down by the following distich:

"No *Potatoe Pelham!*
No *Potatoe* pies!
No small-beer butler!
And no Excise!"

important addition to their means of subsistence,) actually lost an election to a seat in Parliament in consequence of the benefit he had conferred: and even at this time, in many parts of the *European* continent, *potatoes* are rejected as food by the inhabitants, because their swine eat them. We have reason to believe that a prejudice almost as ridiculous prevents the *Lichen rangiferinus* from contributing to the support of a great proportion of the native of the northern provinces of *Sweden* and *Lapland*. They do not like to be fed upon that which has been used as fodder for their cattle. The farmers of *Herjeådalen* had this year housed many hundreds of loads of the *Lichen rangiferinus*, for the use of their cows and horses during the winter.

Leaving *Kålsät*, we were ferried over the *Ljusdal*, and journeyed through level and dreary forests, but with better roads, to *Sveg*. About a quarter of a mile before we arrived at *Sveg*, we found a decent and comfortable inn, called *Nilsvallen*; the village being farther on. Here goats'-flesh was much in use, as an article of food. The inn, surrounded by forests, stood in a solitary situation, with a little adjoining *corn* land.

Sept. 14.—We had a journey of fourteen *English* miles from *Nilsvallen* to *Glåsseberg*, and

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thence nearly sixteen to *Ransiö*, entirely through forests as before described, exhibiting the burnt trunks of fir-trees upon a soil covered with *Reindeer Moss*. Near the dwellings of the peasants we observed the first example we had ever seen of weeping *aspens*. As we now drew near the great *Alpine* barrier, between *Sweden* and *Norway*, vegetation began everywhere to diminish. Excepting the common *Ranunculus*, and the *Parnassia palustris* (which in morasses and upon the banks of the river still lifted its pendent petals in full beauty), the plants were all out of flower. The leaf of the *Birch-tree* was beginning to fall[1]. Just before we entered the little court belonging to the wretched inn at *Ransiö*, a glorious prospect of the RAN SION was suddenly presented. This magnificent piece of water, through which flows the whole current of the *Ljusdal*, is one of the finest lakes in *Europe*; and it is far beyond any other, in the surprising combination which

Ran Sion.

(1) Mr. *Cripps* has noticed, in his Journal, the junction of a river with the *Ljusna*, between *Nilsvallen* and *Ransiö*; which escaped the author's observation.

"We proceeded from *Nilsvallen*, a quarter of a *Swedish* mile, to *Sveg*, where we called upon the Clergyman for a little pitch to fasten our specimens of *Lichens* in boxes. Soon after leaving *Sveg*, we passed *Wema* River, which falls into the *Ljusna*: it has two sources; one of which, called *Norder Wemar*, rises upon a mountain in *Herjeddalen*, named *Håstiöruet*; the other, called *Soder Wemar*, rises near a mountain named *Aloppan*." *Cripps's MS. Journal.*

it exhibits, of rural scenery with the sublimer objects of Nature. Mountains, islands, bays, promontories, broken shores, towering forests, hanging woods, sloping fields, cottages and farm-houses, with all the flood of waters, light, and life about it, make it, perhaps, the grandest and most perfect association of the kind existing. The author made such a sketch of its appearance as may afford a mere memorial of its general character and the disposition of the parts; but it was a prospect beyond his power of delineation, and required the pencil of an abler artist. The inn at *Ransiö* was so bad, that we prevailed upon the owner of a neighbouring cottage to receive us, at whose table these notes were written; while his old wife, sitting on the bed by the side of the author, amused herself in seeing him write; smoking a tobacco-pipe about an inch and a half in length, and covering the floor with her spittle. At the door of this bed-chamber was an older man, chopping wood; who presently suspended his employment, to watch the rapid motion of the pen over the paper: and being utterly unable to conceive what was meant by this quill-driving, staring in the author's face, he said, "I verily believe thou art the *Troller*!" Being asked what made him entertain this notion, he replied, "Because you come from the

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Lord knows where—talk a language nobody understands—and work spells." The poor man was serious; and it was necessary to undeceive him; or at least to make him believe that the *Troller's* visit had more in it of good than of evil. The most effectual method of doing this was to cram his pouch with some excellent tobacco; with which filling his pipe, he abandoned his work altogether. Giving some of it to the old woman upon the bed, he squatted down, kindling the precious weed, and, sucking the smoke with the utmost avidity, remained perfectly satisfied. We found, afterwards, that this wood-cutter was a *Laplander*. We had met with others of his countrymen occasionally in this route, who work for the farmers. Their principal business is, to skin the cattle, when they die; an office that the natives refuse to perform. To take off the hides of any quadrupeds, but especially of *cows* and *horses*, is considered as a degradation among the people of *Angermannland*, *Medelpad*, and *Herjeådalen*. The prejudice is remarkable, because it seems to point to a distinction between this people and the other natives of *Sweden*, who entertain no such repugnance. From all that we saw of *Herjeådalen*, it is one of the poorest provinces of the kingdom.

Employment of the *Lapps*.

Swedish Wedding.

A wedding, in the north of *Sweden*, is always a pleasing and singular sight for strangers. Both the bride and bridegroom are dressed in black. The bride is decorated, from her head to her waist, with a profusion of artificial flowers, made either by the Minister's wife, or by some ingenious friend, of coloured paper. Upon her head she wears a silver crown, richly gilded, and held on by a double chain hanging down on either side of her head: this she holds by one hand, to prevent the crown from falling off. The marriage ceremony being ended, feasting begins, and continues during an entire week; when the most intimate friends of the new-married couple bring large sheets of ornamented paper, covered with verses and various devices, something like *English* Valentines; containing, also, the names of the couple, and the date of their marriage. These are the *Epithalamia;* and they generally remain stuck up in the houses, where the wedding-feasts have been held, for many years afterwards. We saw several of those Papers, with dates referring to marriages that had been solemnized more than twenty years before. So highly did their owners value them, that they refused to sell one of them to us at any price; neither would they allow any one of them to be taken down. *Epithalamia,*

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thus ornamented, may be seen all over the north of *Sweden*. But it is impossible not to notice in these marriage ceremonies, and in other customs common in *Sweden*, the unaltered usages of the Antient *Greeks*. In *Greece*, the same solemn feast was held in honour of wedlock[1]: both the bride and bridegroom were also crowned with flowers[2]: *Epithalamia* were sung, not to mention many other parts of the solemnity in which the two nations agreed. The old song of nurses, to compose children to sleep, has been preserved, in many of the *Gothic* languages, nearly in the same words which were used by the *Greeks*[3]. The most antient drinking-vessels, common to all the descendants of the *Goths*, and to the *Greeks*, were the horns of bulls and oxen[4]; and without a knowledge of this curious custom, we should be utterly at a loss to explain why *Bacchus* was represented with *bull's horns*, or for what reason he was sometimes called

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(1) *Hom. Odyss.* Δ. v. 3. *Iliad.* T. v. 299. *Pollux*, III. 3. *segm.* 44. *Interpr. ad Matth.* xxii. 2.

(2) The wreath was called Στέφος γαμήλιον. *Bion. Idyll.* I. *Epitaph. Adon.* v. 88. See *Schol. Aristoph. ad Av.* v. 160. *Eurip. Iphig.* in *Aul.* 905. *Paschal. de Coron.* II. 16, 17.

(3) Lullaby, Λαλα, βαυβαλαν.

"Philomel, with melody,
Sing in your sweet *lullaby*;
Lulla, lulla, lullaby; *lulla, lulla, lullaby*." SHAKSPEARE.

(4) *Athen.* xi. c. 7. p. 476. A. *Eustath. ad Iliad.* N. p. 833. l. 6.

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Original Identity of the *Goths* and *Greeks*.

Taurus[5]. But the most remarkable criterion by which the original identity of the *Goths* and *Greeks* may be insisted upon, is the analogy between their languages;—in not allowing, like *Latin*, a transposition of words; in owing all their clearness and harmony to the power of their prepositions, relatives, and auxiliary particles; and above all, in the number of words common to both, as they have been adduced by the learned *Camden*, to whose list many more examples might be added[6]. *Camden* cites several authors by whom the same similarity had been pointed out; deprecating, at the same time, any inference that might be deduced from it of the *English* being descended from the *Greeks*.

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(5) They drank ἐν τοῖς κέρασι, says the Scholiast upon NICANDER, ὅθεν καὶ τὸ πιόσιμα. Insomuch, that the word πιόσιμα, *to fill drink*, seemed to be derived from κέρασα.

(6) See *Camden's* "Remaines," p. 32. *Lond.* 1657. To which list may be added many more words, having a common origin; as for example:

A pile	πίλος.	To turn	τορνόω.
Gripe	γρίπος.	Tone, and Tune	τόνος.
Sick	σιπχός.	Clown	χλοῦνης.
Earth	ἶρα.	Phlegm	φλέγμα.
Thrum	θρύμμα.	Term	τέρμα.
Loft	λόφος.	Butter	βούτυρον.
Alike	ἀλίγκιος.	Burse, and Purse,	βύρσα.
Chest	κίστη.	To engrave	ἐγγράφω.
Uncle	ἀγκύλος.	Cann	κάννα.
To hang	ἄγχω.	Gnaw	κνάω.
Comb	κόμη. Dor. κόμα.	&c. &c.	

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But the fact is, not that the *English*, that is to say the old *Saxon*, or the *Francic*, or the *Cimbric*, whence the *Danes* and *Swedes* were derived, descended from the *Greeks*, but that the *Greeks* and *Gothic* nations were both branches from a common stock. Many of the primitive *Saxon* words are undoubtedly of *Greek* original[1]. *Casaubon*, perhaps the greatest scholar that ever lived, was persuaded that the whole groundwork of the old *Saxon* language was *Greek*[2]: and with regard to the language of *Sweden*, the old provincial poetry of *Dalecarlia*, which is becoming unintelligible to the *Swedes* themselves, is so like the language of our early *English* ballads, that we found little difficulty in making out its meaning.

Sept. 15.—We left *Ransiö*; and came through forests, as before, in which we had occasional views of the *Ljusdal* to *Wiken*, about nineteen *English* miles, where we bought some cheese. Upon the wall of the apartment at *Wiken* we found a copy of verses, printed at *Fahlun*, lamenting the death of *Gustavus the Third*. After-

(1) See *Clarke's* Connexion of Coins, p. 35. *Lond.* 1767.

(2) "Ut liberè dicam, quòd sentio, pauca, puto, vera et genuina Anglica sive Saxonica vetera reperiri, quæ (iis exceptis quæ Latinæ sunt originis) si ritè et diligenter expenduntur, non possint ad Græcos fontes revocari." *Casaub. De Quatuor Ling.* p. 378.

Appearance of the *Alpine* Barrier.

wards, as we drew near to *Hede*, distant seven *English* miles from *Wiken*, the clouds, which had covered the tops of all the mountains, began to disperse, and remained in aggregated volumes, white as snow, upon the truly *Alpine* summit of a mountain called *Såhn*. Its base was covered with forests, but all above was bare. In an elevated plain towards the foot of this mountain, though at a considerable distance from it, stands the village and church of *Hede*, in the midst of pasture and corn land, surrounded on all sides by forests and mountains. The river *Ljusdal* flows through this plain. Every thing here resembles *Switzerland*. The timber bridge, and the church, seemed to have been built from *Swiss* models; and the dress of the female peasants was exactly like what one sees in some of the *Swiss* Cantons—white shift sleeves, short petticoats, red worsted stockings, and the hair trussed close to the head. Being the day of the Sabbath, we saw the peasants in their full costume. The men had a number of coloured tassels fastened to their hats, and falling over their shoulders. They had brought to the Clergyman at *Hede* their usual presents, which, at this season of the year, consisted of butter, cheese, &c. Many of them were heated by drinking at the Parsonage. We visited the

Resemblance to *Switzerland*.

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Minister: his house was neat and good. He sold to us, bread, butter, and brandy. Afterwards, we dined with him, on a kind of fish called *Herre*; the same that we had in *Lapland* under the name of *Harr*[1], and which we believed to be *Charr*. Some peasants, who were here from *Luongosby*, agreed to take us to their village, ten *English* miles and a half farther upon our journey. Before we arrived there, the forest was crowded with female peasants, either on horseback or on foot, returning from Church. Many of them were very handsome. They wore white handkerchiefs upon their heads, covering their foreheads as far as the eyebrows.

Luongosby. Every thing at *Luongosby* was truly wild and alpine. The houses were filled with the skins of wild animals. We bought here the skins of *grey-squirrels*; a kind of fur which the *French* call *petit-gris*. This village consists of a number of straggling cottages, extending to a considerable length over a smooth green turf, where there is neither road nor pathway. The inhabitants, amounting in all to eighteen families, have no resident Clergyman, nor Superior of any kind, to interfere with their management of themselves: they are strictly lords of their now

(1) See Chap. XII. of the preceding Volume.

solitude. The plain they possess is surrounded by lofty mountains and towering woods, as by a wall. To us, the natives of this secluded spot appeared to be cut off from all communication or commerce with the rest of mankind. Before we reached it, we observed that the minor plants in the forest were beginning to creep, and thereby to denote their elevated situation. The *Pedicularis Sceptrum Carolinum*, of diminutive size, was in seed, by the side of a small stream near *Luongosby*. The peasants collect the leaves, roots, &c. of the *Angelica Archangelica*[2]. We had often observed this plant flourishing near the road; another proof of our having attained an *Alpine* region[3]. The inhabitants of *Luongosby* appeared to be a more ingenious class of men than the peasants of the villages we had hitherto passed through: one of them offered for sale a watch, every part of which was of his own manufacture. The face of it was a piece of chalk, upon which the figures had been drawn with ink; but, upon the whole, it seemed to be as well made as one of our common *English* watches.

Ingenuity of the Peasants.

(2) See the uses to which this herb is applied in the *Flora Lapponica* of *Linnæus*, p. 69. *Amst.* 1737. We often ate the stalks of the plant: it reminded us of *celery*, but had a warmer flavour.

(3) "Extra *Alpes* nullibi unquam occurrit, nisi fortè ad ripas fluviorum Alpibus proximas." *Flora Lapp.* p. 68.

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Such an instance of ingenuity in a peasant led us to inquire further concerning the statistics of this straggling assemblage of huts; when we discovered that their owners carry on a more considerable commerce, than a traveller, from a mere view of the place, would have imagined; and a stranger would be greatly at a loss to conjecture the nature of it. Their trade consists in supplying, during the winter months, the markets of *Stockholm* with game; the natives of *Luongosby* subsisting entirely by hunting. When the frost begins (which it does with the utmost regularity and exactness, and without any succeeding thaw until the winter ceases), they sally forth to the chace; each man being armed with his fowling-piece. In this employment, they make use of *calls* to decoy the *grouse*, especially a species of *Tetrao*, which is named *Jarper*, pronounced *Yarper*[1]. An amazing havoc is also made among the *Ptarmigans*, or *Snow Rïpa*[2], which are here very abundant. These, together with many other birds, are conveyed in a frozen state, upon sledges, to the *Gulph of*

Hunting Occupations of the Peasants.

(1) It is the *Tetrao Bonasia* of *Brünnichius*; (vid. *Ornitholog. Boreal.* p. 59. *Hafniæ*, 1764.) called *Hierpe*, and *Jerpe*, by the *Norwegians*.

(2) *Brünnichius* distinguishes the *Snow Rïpa* (Rype) from the *Ptarmigan* or *Tetrao Lagopus*; and makes of it a distinct species—"*ex albo fusco et testaceo varius.*" *Norvegis* Rype.—*Ornithologia Borealis*, p. 59.

Bothniå, or to any nearer place to which the bird-merchants from *Stockholm* resort, and where they are sold. Afterwards, they are piled in heaps of a thousand each, and conveyed upon other sledges, over an immense distance of ice, to *Stockholm*, and there again exposed for sale in the markets of that city; a single *Jarper* (Jerpe) there selling for sixteenpence *English*, which was bought for fourpence of the *Luongosby* or other peasants.

Beggars unknown in *Sweden*.

Condition of the Peasants.

We had now nearly seen the whole of *Sweden*; but in no part of it had we ever observed a beggar. A more healthy athletic race of men, or better provided with the necessaries of life, perhaps does not exist, than in *Angermannland*, and in this part of *Herjeådalen*. For every little excursion from his home, be the distance ever so small, the peasant takes with him his sack of bread, a barrel of sour milk, a joint of some dried flesh (beef, mutton, or venison), some cheese, and a box of butter containing, at the least, two pounds. It is really astonishing to see the quantity of fresh butter they swallow at every meal.

We hired here twelve horses, to transport our little waggon, with the servants and baggage, over the first parts of the *Alps*, which may be said to begin here, as there is no longer a road

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for wheel-carriages. We saw numbers of the species of *Tetrao* we have mentioned under the name of *Snow Ripa*, with beautifully variegated plumage, yellow and white; but having no gun, we could not take one of them. Another kind of bird, called *Telchick*, constantly fluttered near us, and appeared to be almost tame, with black heads and red tails. An extraordinary circumstance had occurred in this route, some time before our arrival. Two hundred and fifty barrels of gunpowder, with several barrels of gun-flints, destined for *Norway*, and for some smuggling purpose, were stopped in their passage by the peasants. This cargo came under a pretext of containing ammunition necessary for the *iron*-foundry in *Ljusnadalen*. The Governor of the province, and the proprietor of the foundry, were supposed to be concerned in the transaction, whatever might be its purport; as the Governor had granted a passport for it, and had given orders that it should be expedited as much as possible. According to the tradition of the peasants, the name of this province is derived from *Herjeå*, the son of a king of *Norway*, who fled from his father, and settled in *Nilsvallen*, by the side of the river, before there were any fixed inhabitants; and that on this account it was called *Herjeådalen*, or *Herjeå's*

Seizure of a Smuggling Cargo by the Peasants.

Traditionary origin of the name of the province.

Dale. We had nothing of the grandeur of *Alpine* scenery in the journey from *Luongosby* to *Tännäs.* The stage being long and difficult, we halted in the forest, about half way, to take some refreshment. Our waggon, supported between two horses, came on with more ease than we had expected. The horses, being stallions, were some of them vicious. One of them kicked our principal guide, and struck the poor man in the chest: he lay for some minutes insensible, in consequence of the blow he had received, before his respiration was perfectly restored. We walked almost the whole way to *Tännäs,* about twenty miles, and saw many of the grey *Alpine* squirrels, with the same sort of beautiful fur which we had purchased at *Luongosby.* But nothing we had ever heard or read of the *squirrel* race had prepared us for the astonishment we felt at the leaps made by these animals, who might rather be said to fly. Nothing seemed to alarm them more than the noise made by the snapping of a whip. One of them, frightened by this noise, ran up the stem of a solitary *pine*-tree, which could not be less than sixty feet in height. The same sounds being repeated, it continued to ascend, until it had reached the upmost pinnacle of this lofty tree; when another snap of the whip made it precipitate itself at

Grey Squirrels.

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once to the ground, where, falling upon stones, we expected to see it dashed to pieces; but it made its escape, without any apparent injury, to another tree of equal height; and, again running up the stem, no sooner reached the top than it precipitated itself as it had done before. We found a clean and excellent inn at *Tännäs*[1].

Turnip field on the roof of a house.

A cooling and delicious delicacy presented itself to our parched palates upon our arrival here, and in a place where we should last have looked for it: this was nothing less than a whole crop of *turnips* growing upon the top of the house, and covering all the roof of the inn. Garden vegetables are hardly ever seen in *Sweden;* and with the exception of a few *potatoes*, we had been so long strangers to any thing of this kind, that pine-apples could not have been more grateful. We all ate of them greedily, both in their crude state and boiled; telling our host not to be anxious in procuring for us any other provisions. Upon the highest mountains which commanded this passage into *Norway*, we observed beacons stationed, to give alarm in cases of invasion. The situation of one of those

(1) Travellers who may follow us in this route will always understand, when we speak favourably of the accommodations, that we carried beds with us; without which it would be almost as unadvisable to undertake a journey in *Scandinavia* as in *Russia*.

beacons, opposite to *Tännäs*, was extremely grand: the spot on which it stood appeared to be inaccessible, and its height was prodigious; overlooking the *Sion Låssen*, a noble lake formed by the junction of the *Ljusna* and *Tännä* rivers, which here unite, and spread over a fine valley. There are seventeen families at this place, who keep a great number of cows and horses.

It was the morning of a glorious day when we left *Tännäs:* excepting upon the highest points of distant mountains, there was not a cloud in the sky. This was a fortunate circumstance for us; because the scenery surpassed all that we had seen since we left *Angermannland.* Having ascended a mountain, as we traversed its summit, we commanded, towards the south, a valley of such extent and beauty, spreading wide below us, as it will be difficult to describe. The opposite mountains were many leagues distant; and from the heights, over which we passed, the most immense forests descended in one prodigious sweep of woodland, with towering trees o'er trees, down into the profoundest recesses of this valley; where, amidst the tufted groves, appeared the glittering surface of intervening waters; and beyond rose, as boldly as it fell from the spot where we viewed it, the same succession of unbroken primeval vegeta-

Beautiful Valley.

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tion;—woods, tenanted only by wolves and bears and wandering elks, and all the savage animals of these vast wildernesses, reaching up the sides of all the distant mountains; whose summits, black and naked, as if casting off the cumbrous load of timber which veiled their sides and bases, shone clear in æther, or were concealed within their caps of clouds. Descending from this magnificent prospect, another equally striking was presented. The south-western extremity of a lake, called the *Funnesdal Sion*, appeared in a profound abyss of woods, locked by mountains: beyond this piece of water, and high above all other summits, towered the precipitous ridges of the *Norwegian* Alps, giving to this mountain barrier between the two countries a character of grandeur which is not exhibited by the same range in any other part of it, or by any other mountain scenery in *Sweden*; although, after all, it cannot be compared with the *Alps* dividing *Italy* from *Switzerland*. Many of their tops were resplendent with beds of snow, which remains unmelted throughout the year, but did not exhibit the splendour and brilliancy of the snow-clad summits of the *Helvetian* barrier. At the village of *Funnesdalen* our passports were demanded. Here we found an inn, superior in its accommodations to that

Funnesdal Sion.

we had so recently quitted at *Tännäs*. Just before we reached the village, a road turning off to the right was said to conduct to the *iron-foundry*, distant about two *English* miles: this we did not visit.

The village of *Funnesdalen*, like that of *Luongosby*, consists of a number of straggling wooden huts, widely separated from each other. It occupies the north-western extremity of the *Funnesdal Sion*. Farms, beautifully situate in other parts of the lake, are seen surrounded by lofty precipitous mountains; one of which, north of the village, rises almost perpendicularly, yet upon its craggy rocky steep it is ornamented with hanging pines to the height of 800 or 1000 feet. The circuitous position of the mountains around *Funnesdalen* makes the village appear as if it were placed within a vast crater, at the bottom of which is the *Funnesdal* Lake; and upon its shores, the farm-houses and huts of the peasants. The land is chiefly kept for pasture and hay; the lake during summer supplying the inhabitants with fish, and their corn coming from *Jämtland* and the more fertile parts of *Herjeådalen*[1]. We were detained at *Funnesdalen*,

(1) "The inhabitants of *Funnesdalen* have their corn from *Jämteland* and *Helsingland*: they sell butter and cattle. There are here twenty-four

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for want of horses, not only the rest of the day after our arrival, but so late on the following morning, that we could only reach a solitary and most wretched hovel, called *Malmagen*, distant fourteen miles; situate upon a small lake near the source of the *Tännä*, in the midst of the *Norwegian* Alps, which barely afforded shelter during the night. We left *Funnesdalen* about ten o'clock A.M. and crossed a mountain called *Flotta Fjäl*. The retrospective view of the scenery we have before described was very fine from its summit[1].

Sept. 18.—Upon the summit of *Flotta Fjäl*, we estimated the temperature of the atmosphere

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four families, each family keeping about ten or twelve cows; and there are about thirty horses in the whole village. Day-labour, if victuals be allowed, costs only eightpence *English*, or twelvepence without victuals. They are all their own landlords, and pay very few taxes of any kind. The Clergyman receives his tenth of every thing, even of the fish they take from the lake. The whole of one man's taxes, who kept twelve cows, amounted only to four rix-dollars annually." *Cripps's MS. Journal.*

(1) Towards the higher parts of *Flotta Fjäl*, where all vegetation excepting the *Betula nana* and the *Rein-deer Lichen* might have been expected to disappear, we were surprised to see the large stem and seed-vessels of the *Hyoscyamus niger*; also the *Parnassia palustris*, still in flower, together with *Comarum palustre*, *Pedicularis Sceptrum Carolinum*, and *sylvatica*; and many beautiful species of *Salix*. LINNÆUS mentions the abundance of the *Andromeda hypnoïdes* on all the *Alps*; but we had difficulty in finding a few specimens of this beautiful little plant. For *Botanists* also, we wish to add, that we never found the *Pyrola uniflora*, as a vulgar plant, in any part of *Sweden*. It was so rare, that we seldom saw it; and the places where a few specimens were found have been already noticed.

by *Fahrenheit*'s thermometer, and found it 46°. It had been our intention, at starting this morning, to proceed as far as *Bracken*, twenty-eight *English* miles; but this we found to be impracticable. Fortunately, we met a couple of vagrants, a man and a woman, passing from *Norway* into *Sweden;* the former of whom could speak a little *German*. As our interpreter had not yet arrived with the baggage, we inquired of this man where we might halt for the night; who advised us to go to *Malmagen*, or we should have passed the night upon the mountains. We hired these vagrants to conduct us thither; and sent the guide back, to tell our servants what route we had taken. When we arrived at *Malmagen*, it was about four o'clock P. M. The hovel was so wretched, that the room in which the whole party, including the two vagrants, guides, servants, peasants, &c. were to sleep, was scarcely large enough to stand upright in, and only half roofed, so that the keen mountain air had free entrance. It was, besides, filled with all sorts of lumber, which it was necessary to remove in order to find places for our beds[2].

Malmagen.

(2) "Upon entering the hovel at *Malmagen*, in which we had been advised to pass the night, we were shewn into a room where our heads touched the roof; and this being half open and full of holes, gave to the wind

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As soon, however, as the rest of our party arrived, "calling all hands," we fell to work, and managed to make it hold ten of us. Here we kindled a fire; and, our stock of provisions being exhausted, were preparing to make a meal upon some warm milk, without bread, or even *Swedish* biscuit. At this moment, a fisherman, from the neighbouring lake, entered the hut, and asked if we would buy any fish. Being answered in the affirmative, we invited him in, and took possession of all his stock, which consisted of a kind of fish called *Röe*, pronounced *Rua*, looking very like *Mackarel*, but having three vertical stripes on each side between the first dorsal fin and the gills. When boiled, the belly-fins, &c. became of a bright orange, and the flesh of a pale-pink colour. The flavour of this kind of fish is delicious. The peasants said that they are found only in the *Alpine* lakes.

Curious Fish.

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wind a free entrance. The furniture of this room afforded curious evidence of the manner of life of its owners. From the roof were suspended guns and cheese; from the sides, fishing-nets and tackle, tow, bladders, hemp, yarn, spinning-wheels, jackets, petticoats, shifts, rein-deer skins and hay, socks, caps, garters, baskets, sheeps-hides, boat-paddles and greasy leather bottles, ladles, saucepans, and kettles. In the corners were sledges and millstones. The floor consisted of loose trunks of trees, which, being rotten, were full of holes. In this place, where there was hardly room to turn, we were to set up our beds, and lodge, besides eight or ten other persons. The young woman of this wretched hovel was extremely handsome. She brought us milk. They had a number of cows, some goats, and sheep."—*Cripps's MS. Journal.*

Extraordinary Rencontre.

We had little reason, from his appearance, to suspect how great an individual stood before us, in the person of this fisherman. He was in the garb of the common peasants, with an aspect venerable from his age and grey hairs. It turned out, that in this poor fisherman, and in this remote corner of *Sweden*, we beheld the cause of the prohibition of *Coffee*, of which the whole kingdom, at this time, rang from one extremity to the other. It was this man who gave the information to the King, in person, at *Stockholm*, respecting the affair of the gunpowder before alluded to. Having failed in his first journey, owing to the intrigues or negligence of his Majesty's Ministers, he set out the second time from the frontier of *Norway*, and, demanding an audience, delivered his memorial into the King's own hands. The case was this: A contraband traffic had long been carried on, unknown to the *Swedish* Government, of conveying gunpowder by this route into *Norway*, and bringing back, in lieu of it, smuggled coffee: the Governor of *Herjeådalen*, as it is supposed, and the proprietor of the *iron*-foundry in *Ljusnedalen*, being the principal persons concerned in conducting the trade. The fisherman whom we have now mentioned, and who did us the honour of a visit, probably to see what was

Cause of the Prohibition of Coffee.

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going on, took down an accurate account of the number of the barrels, with their several marks, and the names of the persons to whom they belonged. This memorial he presented to the King, who, having received him very graciously, promised to reward him; and within three weeks from the day of its presentation, an order was issued by the Government, prohibiting the use of coffee, under very severe penalties, throughout the *Swedish* dominions. Whether the old peasant ever received any reward or not, we did not learn. The particulars were related to us by those who knew him well, and were intimately acquainted with all the circumstances of the transaction. They regarded him with a degree of respect bordering on reverence, and not in the slightest degree with that feeling which would be excited towards an informer in *England;* believing, as was probably the case, that, in his conduct, he had been actuated only by motives of the purest patriotism; which had twice instigated him to undertake the immense journey from these mountains to the metropolis, and ultimately to penetrate the chambers of the royal palace, even to the presence of his sovereign.

Having finished our supper, and stopped several holes in the sides of the hut, we set up

our beds, and betook ourselves to rest. The scene which our bedchamber exhibited was somewhat singular. The stars glimmered through the yawning cavities of the roof above us. Hides, furs, nets, boat-paddles, kettles, pans, sledges, spinning-wheels, &c. were piled or suspended around us. An old woman lay snoring close to our heads, wrapped in rein-deer skins. Our servants were stretched on benches alongside of us. The fire-place, heaped with glowing embers, was surrounded by our guides and horsemen; and these, together with the old fisherman, and the *Norwegian* vagrants we had picked up in our way, sate smoking tobacco, and chattering over the remnants of the meagre diet they had helped to devour. Presently all were silent, and fast asleep; not a sound being heard, excepting the nasal bugles of the company, keeping time with the whistling of the *Alpine* blast through the crevices, which served as a lullaby, until the morning.

The Helling *and the* Polsk, *antient* Greek *Dances, as existing in* Norway.

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FROM MALMAGEN, UPON THE NORWEGIAN ALPS, TO TRÖNYEM.

Visit to the Laplanders—*Further Observations respecting this People—Their mode of killing Rein-deer—Passage of the* Norwegian *Alps—Valedictory Retrospect of the North of* Sweden—*Descent from the Heights—Source of the* Glommen *River—Fish called* Röe—*Species of* Ptarmigan—*Difficulty of the Route—*Brakken—*Change observable in the Habits of the Natives—*Oresund *Lake* —Beckåås — Storvartz—*Arrival at* Röråås—*News of our former Companions—Library of a Learned* Englishman—*Visit to the Copper-Mines—Description of the Ore,*

Ore, its Matrix, and Mineral Associations—Extraordinary Direction of the Veins—State of the Works—Mode of blasting the Ore—Appointed Labour of the Miners—Profits arising from them—Produce of the Four principal Smelting-houses—Situation of Rörråås—*Effect of Sulphureous Exhalations—Exportation of the Metal—State of Medicine—National Dances—Price of Commodities—Departure from* Rörråås—*Manners of the People, as opposed to the* Swedes—Hoff—Soknæs—*Farms above the Clouds—Resemblance to* English *Customs—Description of the Interior of a Farm-house*—Melhuus—Oust—*Appearance of the Country towards* Trönÿem—*Prospect of the City—Arrival at* Trönÿem—*Reception of Strangers—Manners of the Inhabitants—National Song of the* Norwegians—*Clubs—Population and Agriculture—Funds for Public Institutions—House of Industry—Plantations—Climate—Exports—Rapidity of Vegetation—Commerce with* Ireland.

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As soon as it was dawn, we were all stirring, and glad to hail the first beams of the sun. Upon a mountain, opposite the hovel in which we slept, was an encampment of *Laplanders*, with above a thousand *rein-deer*; and we resolved to make our breakfast with them. They had fixed their camp literally in the clouds, in a most etherial situation between the two kingdoms. Our guides told us, that they remain upon this mountain during all seasons, selling tobacco, which they bring from *Norway* to the peasants: in fact, they are the herdsmen of all the neigh-

Visit to the *Laplanders.*

bouring country; many of their *rein-deer*, as of the other cattle under their care, belonging to the inhabitants of the surrounding district, both *Swedes* and *Norwegians*. They came towards us, with their usual characteristic countenance and manner; all dwarfs, with long, lank, black hair, braided in straight locks, on either side, behind the head; and with blear eyes, rheumy and sore; the pupil of each eye distorted inwards toward the bridge of the nose, and their hands held up to their foreheads to cast a shade over their eyes, the light being painful to them upon coming from their tents. A whole colony, consisting of several families, had settled upon this spot. They had just finished their *winter* tents, which, having a conical form, differ only from their *summer* habitations in being covered with turf instead of cloth. Upon this green turf many *Alpine* plants were yet growing, as if left there to adorn their little dwellings. The height of each tent would allow nobody but a *Laplander* to stand upright. Several of the men and women allowed us to measure their height: the average stature of the former was four feet; that of the latter did not exceed three and a half. Their little ferret eyes, and want of eyebrows, added to their high cheek-bones, gave them, as usual, a *Javanese* look; that is to say, such a resem-

blance to the people of *Japan*, as might be deemed a strong family likeness. The *Swedes*, inhabiting the same country, are quite a different race; with large features, gigantic limbs, and stature. The *Laplander* is truly a pigmy: his voice, feeble and effeminate, accords with the softness of his language. When taken from his tent, he rolls his weak eyes about, like a bird or beast of darkness suddenly exposed to the sun. The *Lapps* are said to be more cunning than the *Swedes*, who consider them as a crafty set of knaves; just as the *Gipsies* are regarded everywhere. Perhaps their cunning may be principally due to the necessity they are under of being constantly upon their guard, lest they be maltreated; the people considering them as an inferior order of beings in the creation, and thinking it lawful to make them the objects of contempt and ridicule, using their very name, *Lapp*, as a term of degradation. We have seen a *Lapp*, when surrounded by *Swedes*, deny himself to be a *Laplander*, as if ashamed and fearful of scorn. But they live better than the *Swedish* peasantry; and in their dealings demand specie, refusing the paper-currency of the country whenever it is offered. It is, nevertheless, impossible for human beings to wear an aspect more hideous than some of their old women;

Further Observations respecting this People.

and hence it is that the credulous fear them, and suppose them gifted with the powers of witchcraft. A person unaccustomed to their appearance, meeting one of these creatures suddenly in the midst of a forest, would, as we have said before, start from the revolting spectacle: the diminutive stature, the unusual tone of voice, the extraordinary dress, the leering unsightly eyes, the wide mouth, nasty hair, and sallow shrivelled skin, "the vellum of the pedigree they claim," all appear, at first sight, out of the order of Nature, and dispose a stranger to turn out of their way. The men whom we saw upon this mountain, notwithstanding the keenness of the morning air (*Fahrenheit*'s thermometer then being at 45°), made their appearance with their necks and bosoms bare, exposed to the chilling blast. Upon the dwarf birch-trees round their tents, the limbs and carcasses of *rein-deer* were drying in the wind. These articles of food are offered for sale to the peasants, together with the fermented milk of the same animals, contained in the paunches of *rein-deer*, and hung up with the flesh. Sour-milk thus prepared may be kept all the winter: it is in great request among the inhabitants, who buy it of the *Lapps*. Many of the *Lapp* women crowded round us, as soon as we arrived: their necks

and fingers were covered with trinkets and rings. We prevailed upon some of the younger females to sing. Their tone of voice did not differ from the sort of howl we had heard in *Torneå Lapmark*; but they accompanied their voices with a continued beckoning motion of their right hands, standing at the same time opposite to each other, while they sung; which were gestures we had not before observed.

Near the tents there was a large enclosure constructed of trees, thrown together so as to form a tall fence like a *cheval-de-frise*. This enclosure contained about six or seven hundred *rein-deer*, and many of the female *Lapps* were employed milking them. Other *rein-deer* were roaming about the mountain; and, at a distance, we saw several *Lapps* dragging more of these animals towards the enclosure. They are thus folded every night for milking; the fence serving to confine them, and to protect them from the wolves; some persons being constantly appointed to watch them in their enclosure, which has only one narrow gate or place of entrance. We breakfasted by taking draughts of the *rein-deer* milk, which was as rich and luscious as cream, tasting deliciously sweet: but we had afterwards reason to repent of our rashness in having so done; as this milk is very difficult of

digestion, and we were grievously troubled with head-ache in consequence. Afterwards, we entered into the tents, and sat down in some of them. The *Laplanders* themselves have a peculiar mode of sitting in their tents, which may be considered as one of the marks of their *Asiatic* origin: they first kneel, like a *Turk* or *Arab* preparing for his devotion; then, leaning back, they sit, in this posture, upon their feet. Every thing respecting the economy and arrangement of a *Laplander*'s tent, and of their manners and customs, has been represented by plates, and accurately described, in the curious work of the Missionary *Leems*[1]: but this work is so rare, that we shall briefly describe the ground-plan of one of them, according to the notes made upon the spot. The hearth, or fire-place, is in the centre, between two parallel rows of stones; and a large oblong stone is placed at the entrance: smoke, always filling the tent, escapes through a hole in the top. Pots, kettles, &c. hang from the sides. In the small space between the parallel rows of stones is the only area for cooking. The floor is covered with bushes of the *Betula nana*; upon which are

(1) *Canuti Leemii de Lapponibus Commentatio*, multis tabulis æneis illustrata, &c. *Kiöbenhavn*, 1767.

laid *rein-deer* skins, for the beds, all round the hearth.

We took this opportunity to buy one of their finest and fattest *rein-deer;* upon condition that a *Lapp* would conduct it to *Bracken,* upon the *Norwegian* side of these mountains, and there kill it. This fine animal was five years old: we paid for it seven rix-dollars, in silver; and would gladly have sent it to *England* from *Trönijem;* but without a *Laplander* to attend it, we knew that it would not live. It is also necessary that a *Laplander* should kill the *rein-deer,* in order to taste their venison in perfection. Their mode of doing this is the same used by the butchers in the south of *Italy;* the most antient and best method of slaying cattle, because it is attended with the least pain to the animal, and the greatest profit to its possessor. They thrust a sharp-pointed knife into the back part of the head, between the horns; so as to divide the spinal marrow from the brain. The beast instantly drops, and expires without a groan or struggle, as if it fainted. The blood is not suffered to flow; but is collected afterwards into a pail from the stomach, yielding about two gallons: it is then used for food. In this respect the method differs from that of the *Italian* butchers, who open the throat after the beast has fallen, and suffer the blood to flow.

Their mode of killing *Rein-deer.*

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The *Laplander*, as soon as the *rein-deer* falls and appears to be dead, plunges the knife dexterously behind the off-shoulder, into the heart; then opening the animal, its blood is found in the stomach. The skin which is taken from the legs and feet, they prize highly; because they make their shoes of it. The *Laplander* who attended our *rein-deer* begged for this part of the skin, and was very thankful for it when we allowed him to take it.

After our visit to the *Lapps*, we ascended the lofty *Fjal*, upon which they had pitched their camp; and crossed over into the other road; if roads they may be called, which exhibit no other vestige of human labour than, at every quarter of a *Swedish* mile, a tottering pillar of wood, to mark the distances. We passed three of these; the third being the last in *Sweden*. Here we first observed the rivers beginning to take their course towards the *Norwegian* Seas; and a wide *Alpine* prospect before us plainly indicated that we had now attained the highest point of the passage into NORWAY, whence we were to descend into other regions, and visit another people. A feeling of regret was excited at the moment; and we looked back with hearts yearning towards SWEDEN. In the pleasing recollections then suggested, we called to mind

Passage of the *Norwegian* Alps.

Valedictory Retrospect of the North of *Sweden*.

the simple and innocent lives of the arctic farmers, fishermen, and hunters; jovial *Finland*—hospitable *Westro-Bothniå*—hearty *Angermannland*—merry *Helsingeland*—sturdy *Herjeådalen*—all, all were gone! Nothing remained to us of SWEDEN, save the athletic natives of *Funnesdalen*, who attended as our guides; and a grateful association of ideas made us regard them as our friends.

Descent from the Heights.

We descended, a long time, by a doubtful and perilous path (among low birch-trees, hardly rising higher than our heads, and disposed to creep like the *Betula nana*), through bogs, and over slippery rocks. In these bogs we found the *cloudberry*, covering all the surface from the very summit. The jaded horses on which we rode, were almost buried in some of the swamps. Very often, not a trace of any path could be discerned; and, more than once, our guides having lost their way, made us measure back our paces in search of it. Towards the *north-west*, mountains in greater number, and more lofty than any we had yet seen, appeared far beyond us: one in particular, which, if we rightly apprehended our guides, was called *St. Skarven-Field*, of prodigious elevation, and of a conical shape, had for its base a series of other mountains. It resembled one of the *Paps of Caithness* in

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Scotland, as seen from the southern coast of the *Murray Firth;* and, from the truncated appearance

of the upper part of the cone, like that of *Mount Vesuvius* and other volcanic mountains, we suspected that it might have had a volcanic origin; but this was mere conjecture: its distance was much too remote from our route to enable us to satisfy our curiosity in this respect. At length we reached the margin of a small lake, called the *Bolagen Siö,* which discharges itself into the *Oresund,* by a stream called *Borgen:* it is the source of the GLOMMEN, one of the largest, if not the most considerable, of the *Norwegian* rivers. Traversing the whole of *Norway,* from *north* to *south,* after a course of three degrees, it falls, by several mouths, into the *Northern Ocean,* at *Frederickstad.* In the *Bolagen Siö,* and in the *Oresund* Lake, is found that species of fish which we have so lately mentioned: it is called *Rua,* both by the

Source of the *Glommen* River.

Fish called *Rüe.*

Swedes, and by the *Norwegians*; and this name is written *Röe*.

Species of *Ptarmigan*.

The little dog which accompanied us in all our travels, disturbed several *Sno-Ripas*. They were here in great number among the underwood; and as often as they were disturbed they rose before us, displaying their beautiful plumage, now beginning to assume the whiteness it exhibits during winter, but variegated by hues of a bright yellow. The value of our guides was here sufficiently apparent: without them we could not have advanced another step. In places where there was not the slightest trace of any path across the numerous bogs that surrounded us, these men led the way; thrusting their poles into the swamps to find a bottom; and if they hit upon it, though at the depth of three or four feet, they boldly ventured on, and bade us follow with the horses. The surface of these bogs vibrated in such a manner to the horses' feet, that the poor animals, taking the alarm, began to snort and hesitate, as if they were aware of the probability of their being buried together with their riders, should the surface give way with their weight. We had sent our waggon by a different route, over *Rhute Fjal*, to *Brakken*, from *Malmagen*: but when our servants arrived, we found that they had encoun-

Difficulty of the Route.

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tered greater difficulties; their horses being quite exhausted, their shoes torn off, and expecting at every instant to be compelled to abandon the waggon altogether. It is right to state this, that others may not be induced to attempt this passage with a carriage, which, in the present state of the country, would be impossible; although a little expense and labour would render it as easy a journey as any other part of *Sweden*. The policy of the two nations, at this time, rendered it expedient not to promote an intercourse between the opposite sides of this barrier. After descending these mountains, the first village, and indeed the first place of any habitation in NORWAY, is *Brække*[1], or *Brakken*[2]; pleasingly situate in the midst of meadows, which were now pasturing upwards of fifty cows, besides sheep and goats.

Brakken.

Change observable in the habits of the Natives.

We experienced an agreeable surprise in observing a change for the better, as to accommodations, immediately upon our leaving *Sweden*. The cleanliness of the cottages on the *Norwegian* side of these mountains was very remarkable; and the resemblance to *English* customs and language, which we had remarked in the moun-

(1) According to *Pontoppidan*.
(2) According to Baron *Hermelin*.

tainous parts of *Sweden*, was here more striking than ever. Every thing we saw called to mind "the good old times" of *England*. Polished pewter dishes and earthenware plates, set in rows along the walls; rows of brown mugs for beer; burnished kettles and saucepans; bright wooden benches, bedsteads, chairs and tables, bleached with frequent scowering; pails and ladles, white as the milk they were to contain. And besides this, a great improvement in the condition of the natives; better clothes, better bread, and many even of the luxuries of life. The *Swedish* peasants who visit these parts buy of the inhabitants some of the last, such as brandy and tobacco; which, fortunately for the natives of *Herjeådalen*, they have not at home. A striking difference is also discernible between the inhabitants of the two countries. The *Norwegians* are a smaller race of men: the athletic and gigantic stature characteristic of the northern *Swedes* no longer appears. There is also a difference of dress and manner: instead of a hat or scull-cap, the *Norwegian* wears a red or blue woollen night-cap, or else a cap shaped like that of an *English* jockey; and, instead of strings in his shoes, enormous brass buckles, covering almost the whole of the upper part of the foot: instead of open hearths for fire-places, the less

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cheerful and unpleasant stove appears in every chamber: instead of woollen counterpanes, lined with woollen fleece or *rein-deer* skins, the beds in *Norway* are covered with bags stuffed with the down of the *Eyder*-duck.

At *Brække* we killed our *rein-deer*. The *Lapp* who conducted the animal to this place performed the office of butcher, and divided his carcass into quarters, which we afterwards carried with us to *Trönÿem*. He remained with us during the night, taking care to intoxicate himself the next morning, when he took his leave. We were sorry to lose him; knowing it would be the last we should see of this extraordinary people in their own country. It was necessary to procure a boat from another village to carry us across the *Oresund* Lake to *Beckåås*; whence it is barely possible to conduct a carriage upon wheels to the *Storvartz* mines; and hence there is an excellent road to the town of RÖRÅÅS, pronounced *Rurose*. Our little waggon was six or seven times overturned, in that short distance. We dined at *Beckåås*, and found the same neat and cleanly accommodations we had met with at *Brække*. In crossing the sands to get into the boat at *Brække*, the boatmen shewed to us the impression of a bear's foot, which had passed to the woods at

Oresund Lake.

Beckåås.

Storvartz.

the base of the mountains but a few hours before, and had been seen by some of them. Numbers of *Alpine* plants may be collected on the shores of the *Oresund* Lake, and in great perfection; especially the *Alpine* species of *Astragalus*, *Gentiana*, *Lycopodium*, *Pedicularis*, &c. We remained at *Beckåås* during the day; being unable to procure horses before the evening. At that time being ready to start, one of the peasants wanting his comrade, and supposing that he was in the house, opened the door of our apartment, and said, "*Are you here, Christian?*" We have written the words exactly as he pronounced them: of course the spelling would not be the same in the *Norwegian* language; but this will serve to shew that, in many instances, the *Norwegian* language does not differ from our own; and we seldom found it difficult to make ourselves understood by the people of that country. In leaving *Beckåås*, looking back towards the *Alps* over which we had so lately passed, we perceived that they were covered with snow; and this change had been effected during the preceding night. It was almost dark when we arrived at the yawning caverns of *Storvartz*: their appearance, added to heaps of excavated minerals, plainly proved that we were among mines. The moon rose in

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Arrival at *Rörås.*

great splendour; and gaining the main road, we had no further difficulty, but ran down quickly to RÖRÅÅS. The winter was evidently fast approaching, or the elevation must have been still very considerable; as our clothes and waggon were covered with a hoar-frost when we entered the town.

We were greatly surprised by the appearance of this place; not having any idea that a town of such consequence existed so far to the north. The streets and houses are of considerable magnitude; and were it not for the turf upon all the roofs, it would look more like a town in *Holland* than in this remote part of *Norway*. We were received by an old and intelligent Apothecary, who had attained his eighty-fourth year; a very worthy man, with a young wife, whose house had long afforded accommodations of the very best kind to travellers. We had not been in a more comfortable mansion since we left *England*. In the *Livre des Etrangers* we found, to our great joy, the names of our two friends, *Otter* and *Malthus*, from whom we parted at the *Wener* Lake, upon our first coming into *Sweden;* and received from our host the only intelligence we had since received of their welfare. They had visited a *Lapland* colony in the neighbourhood,

News of our former Companions.

which was the most *northern* point of their journey[1]. These tidings, and the welcome we experienced from the good old apothecary and his family, made us regard his house as a home; and we determined to remain two or three days in *Körråås*, and make a visit to its famous *Copper-mines*. Every thing afforded a contrast to the objects we had left: on each side of the door of the house, facing the street, was the statue of a Negro as large as life, in the true *Dutch* taste; yet, uncouth as these figures were, they exhibited the dawning of arts characteristic of more civilized life than could be found in the savage scenes of the *Swedish* forests; and we therefore hailed their appearance with joy. After a comfortable supper, we were shewn *up stairs*[2] to our beds, for the first time since we left *England*; and even this novelty, trivial as it may seem, yet serves to mark a very striking distinction of manners. There was, in this house, an entire library of books condemned to supply waste-

Library of a learned *Englishman*.

(1) Messrs. *Otter* and *Malthus* afterwards returned through *Norway* and *Sweden* to *Stockholm*; and thence, passing through *Finland*, were for some time detained at *Wibourg*, during the tyranny of the Emperor PAUL; which place they afterwards quitted for *Petersburg*, where they embarked for *England*.

(2) The beds in *Sweden*, as in almost all parts of the Continent, are upon the same floor as the sitting-room; and generally a single room answers for all the purposes of eating, sleeping, &c.

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paper for the drugs, grocery, &c. sold by the old apothecary: it had been the property of an *English* gentleman of the name of *Hammond*, who died here; but nothing further could we learn of his history. Judging from the selection he had made of authors for his studies, and from some manuscript notes, written by himself in the *Latin* language, in a fair hand, in many of the volumes, it appeared that he was a man of learning, and had been engaged in the most profound theological researches nearly half a century before. The principal part of the library consisted of Commentaries upon the Old and New Testament: among these were the works of *Lightfoot*, in folio, bound in white vellum; *Ainsworth* on the *Pentateuch*, also in folio; the works of *Vorstius*; and a vast heap of philological writings on the *Arabic* and *Æthiopic* languages, and the respective antiquities of *Arabia* and *Æthiopia*. We bought many of these books: they were in excellent condition: it was quite lamentable to see the havoc that was going on, and had for a long time taken place, in this valuable library[1].

(1) In a small Quarto Volume of the *Philologia Sacra* of *Vorstius*, printed at *Franckfort* in 1705, his name appeared with the date in this manner: "*Suis annumerat libris comparatis Hafniæ, V. F. W. Hammond*, 1751."

Visit to the Copper-mines.

The next day (*September* 21) the Director of the mines waited upon us, and very politely offered his services. We begged permission to visit the works, and to purchase minerals upon the spot. This was readily obtained; and having procured horses, and an experienced miner to accompany us, we rode to the mines. They are distant, east of *Röråås*, about five *English* miles towards the *Oresund* Lake, and have long been considered among the most considerable in his *Danish* Majesty's dominions[2]. The Prince Royal visited these mines. They still exhibit an arch in one of them, which was ornamented with 300 lamps when he was there. The road leading from *Röråås* to its mines lies through a dreary stony heath, with a chain of small lakes in a bottom to the right, which form one of the small rivers that fall into the *Glommen*. The cottages are like the little huts of the South of *Scotland*; being built with similar materials, and in the same manner. By the side of this road we found many *Alpine* plants. The *Ranunculus glacialis* was in flower. The *Betula nana* had a smaller leaf than even upon the summits of the *Alps* between *Sweden* and *Norway*. We gathered here the seeds of the *Saxifraga azoïdes*. The

Röråås.

(2) They belong now to *Sweden*.

first thing that we were shewn, upon our arrival at the mines, was the dormitory of the workmen, who sleep upon boards, before an enormous fire, with *rein-deer* skins for their pillows. We were struck by the unhealthy appearance of the workmen; almost all the miners being asthmatic. The reason assigned for this by the Director was threefold; first, that they come much too young to work; secondly, that they work by the gross, and often injure their health by the violence of their exertions; and thirdly, that it is a constant practice with all of them to drink large draughts of cold water, when they are very hot. But perhaps the real cause of the prevalence of this disorder may be found in the sulphureous exhalations from the works, which are so powerful in the neighbourhood of *Röråås* as to affect the inhabitants. The great mine, into which we descended, like all the others here, is as easy of access as the interior of a cathedral church. Instead of a descent vertically, the entrance is by a level road into a cavern; whence the declivity is so gradual, that carts, drawn by horses, are conducted into all parts of it; the different chambers being lofty, spacious, and airy; so as to render it more convenient for investigation than perhaps any other mine in *Europe*. The guides,

who accompanied us, carried with them deal splinters, bound into fagots, each bundle being about as thick as a man's arm. These splinters they used as torches; and they answer the purpose of lighting such dark passages much better than the candles used for the same purpose in our *Cornish* mines. The lower chambers of all the *Cornish* mines are very hot: but these of *Röråås* are so cold, that ice appears everywhere in large masses, or in icicles hanging from the roof, and from the ladders fixed in the shafts; the steps of which are covered by ice, in such a manner as to become thereby slippery and dangerous. But hitherto it had been so practicable to remove the ore, by means of carts and horses, that they had scarcely introduced a shaft into the mine. A short time, however, before our coming, they began to find the necessity of opening shafts, and already found the advantage of using them in a few places.

The *copper* ore of the *Röråås* mines is a *sulphuret* (commonly called *yellow-copper ore*, or *pyritous copper*), often associated with *hornblende*. They have no *grey copper*, in these mines. The ore is also accompanied by the *sulphuret of iron*, crystallized in *cubes* and in *octahedrons*: also by dodecahedral *garnets*; the last being found in

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such abundance, imbedded in *chlorite schistus*, that we found heaps before the entrance of the mine, where the beautiful crystals of *garnet* were so thickly set in their matrix that entire masses seemed to consist of nothing else. The other minerals, for which the *Röråås* mines are remarkable, are, *amianthus*, of such exceeding whiteness, silky lustre, and length of fibre, that we had never seen any to compare with it; and also *quartz*, as highly diaphanous as the most limpid *rock-crystal*. Speaking of the latter mineral, *Engeström* says[1], that it is "*transparent comme le cristal de roche, mais sans figure déterminée:*" but he might have been aware that such transparency in a mineral is in itself an indication of *crystallization*, and cannot exist without it. If he had seen this beautiful *quartz* as it appears *in situ*, he would have observed the planes of dodecahedral crystals; which may be discerned before the miners have broken the surface with their hammers. 'We descended for a considerable time; the arch of the cavern being high, low, broad, or contracted, according to the extent of the vein when it was worked. When we were at the depth of about fifty *Norway* yards perpendicular, we halted to hear three

(1) Guide aux Mines, par *Engeström*, p. 39. *Stockholm*, 1796.

reports from the blasting of the ore by gunpowder, which sounded tremendously; and this subterraneous thunder continued to vibrate for a long time upon the ear. We afterwards examined the places where the rocks had been riven for the ore that they were then working.' To the eye it appeared very rich, like the *pyritous copper* of the *Paris-mountain* mine in the Isle of *Anglesea:* but this kind of ore is by no means to be compared, in richness, with the *grey sulphuret;* seldom yielding more than twenty or thirty per cent. of *copper*. The most extraordinary thing is the direction of the ore, which occurs here, and in the other mines, stratified in horizontal beds, traversing *mica slate;* or, as the miners upon the spot call it, *Glimmer Shifver*. This explains the facility with which, for so long a time, the ore has been carted and carried out of the mine. It is considered one of the richest deposits of *copper ore* known. *Pontoppidan* says[2], that since the mine of *Fahlun*, in *Sweden*, is said to be near exhausted, possibly that of *Röråås* is the richest in all *Europe*. It was discovered, in 1644, by *Laurence Lossius*, a refiner at a neighbouring mine. Upon the 9th of *October*, 1744,

(2) "Natural History of *Norway*," by *Erich Pontoppidan*, Part I. p. 192. *Lond.* 1755.

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a Jubilee was celebrated by the inhabitants of *Röråås*, in gratitude for the uninterrupted prosperity of their mine during the course of a hundred years. One of the oldest courses is that of *Storvartz* mine. "These courses of the *copper-veins*," observes *Pontoppidan*, "agree in their direction with those of the other parts, neither ascending nor declining, but, like the other strata, traversing the mountains horizontally, though thinnest towards their centre; like a lump of dough, which, pressed betwixt two stones, is thinnest where the pressure lies greatest[1]." The horizontal and expanded direction of the same *copper-veins* are also described in a Memoir read before the Royal Academy of Sciences at *Stockholm*, in 1742, by *Daniel Tilos*, cited by *Pontoppidan*[2]. The vast importance of the discovery, and its consequences, as affecting the happiness and welfare of the people, were simply, but pointedly shewn, in a short passage which the same author also cites from the Sermon preached by *Peter Abildgåård*, at the Jubilee before mentioned. "It is not much above a hundred years," said the Preacher, "since the

(1) "Natural History of *Norway*," by *Erich Pontoppidan*, Part I. p. 192. *Lond.* 1755.

(2) Ibid.

only inhabitants of these parts consisted of seven or eight families, making about thirty or forty persons; and these led a savage life, and derived all their support from hunting; whereas now the number of this congregation exceeds two thousand, exclusive of the neighbouring, which contain many more; and all subsist by the working of the mine." At a place called *Tolgen*, near *Röråås*, there were three founderies for smelting the ore, which, in *Pontoppidan*'s time, consumed annually between 12 and 15,000 *lasts* of *coal*, and 5 or 600 fathoms of wood. In the course of eleven years, the *copper-ore* smelted at those founderies had yielded 12,875 *ship-pounds* of *pure copper;* each *ship-pound* being equal to 320 *pounds* of *Norway*. That we may therefore shew what the state of these mines was at the time of our arrival, we may now add, that the quantity of *copper* raised amounted upon an average, annually, to above double what it had been. In the last three years they had raised 7408 *ship-pounds*. The sum total of the workmen in the *Röråås works* amounted to 650 persons; of whom 430 were employed in the *mines*, and 220 in the *smelting-houses*. The fuel used for these houses was principally *coal;* and of this they consumed annually from 26 to 27,000 *lasts;* each *last* being equal to two *English*

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tons. The annual expenses of the works averaged 107,000 to 112,000 rix-dollars. These particulars we had from the director of the mines, Mr. *Knoph*.

'We afterwards descended lower; and walked about among different excavations, lighted by the torches of deal splinters held by men black as the eternal night of these caverns. Among the miners who were at work in making holes for the powder, we observed some athletic figures, of stature and appearance fitted to call to mind the poetical descriptions of *Vulcan*'s associates, the *Cyclops*. In boring for the blasts, the holes are made a *Norway* yard (two feet *English*) in depth. Seven ounces of powder are put into each hole, confined with dried clay driven in with much force. From ten A.M. to twelve are the hours of blasting; and those labourers who are not absolutely necessary for this part of the work are allowed to remain above ground during these hours. Before the explosions begin, one of the superintendants examines all the holes; and if they be not a proper depth, they are filled up again, and the man who made them is obliged to bore others. The stated labour of each man is two holes a day; for which, when they have served their apprenticeship of ten years, they receive five

dollars a month. Those who have not worked ten years, receive only four dollars, or four and a half; even though they do exactly the same quantity of work. Besides the stated labour, there are odd jobs by which a man may add to his earnings. The miners work from Monday morning till Friday noon: they remain in a house by the mines during these days, and go home to *Röråås* to their wives and families on the Friday. Sometimes, by working harder, they finish their appointed labour before the time, and are allowed to go home sooner. They generally work from four A.M. till five P.M., except meal-times, and two hours, from ten till twelve. While we remained in the mines, explosions were continually going off; and those at a distance rolled so exactly like thunder, that they were not to be distinguished from it. There are generally 150 explosions during the hours of blasting. The ore is carried in small carts with horses, in the lower parts of the mines, and brought to shafts to be raised. The shaft we saw was only fifty *Norway* yards (100 feet *English*) deep; but there was another about 100 yards perpendicular from the surface. These shafts, as in all mines, serve to give air to the lower chambers; and up these the water is pumped by engines. The greatest depth of

any part of this mine is 150 *Norway* yards: we were never lower than sixty. The excavations extend in a straight line about 1500 yards; but they are of considerable extent in other directions. The mine is divided into 172 shares. Each share produced last year 400 dollars clear. Formerly, a share produced 500 or 600 dollars. The greatest proprietor possesses eighteen shares. Mr. *Angel*, better known as the great benefactor to the city of *Trönÿem*, possessed eighteen shares; and there are now one or two, among the proprietors, who possess more.'

The prodigious benefit which has resulted from working these mines is not felt only in *Röråås*. The prosperity and flourishing state of all the north of *Norway*, especially of the city of *Trönÿem*, improperly written *Drontheim*, are mainly due to its *copper-mines*. The country near *Röråås* contains a store of wealth for many generations: the only evil to be apprehended is a want of fuel, the neighbouring woods being already consumed, which occasions the *coal* to be brought from some distance, and consequently raises its price. "This," says *Pontoppidan*[1], "should incite those, of whom it is the more

(1) "Natural History of *Norway*," by *Erich Pontoppidan*, Part I. p. 195. *Lond.* 1755.

immediate concern, to promote the growth of young woods, and to restrain the keeping of goats, which do so much damage among the saplings; for how many thousand *lasts* of coal, beside stacks of wood, this copper-work requires, may, in some measure, be conceived only from this circumstance, that only the calcination of the ore requires a fresh fire, six, seven, or eight times."—'At the four different furnaces of *Rörås, Tolgen, Dragåas,* and *Feminds mitter,* between 12,500 and 13,000 tons of *copper* are annually smelted.'

Situation of *Rörås.*

The prospect of the *Norwegian* Alps towards *Sweden,* over which we had passed, was very fine. We had here our last view of them: they were now quite covered with snow. The situation, too, of *Rörås,* which we observed in returning, we had not before remarked; owing to the lateness of the hour when we arrived. The town covers the side of a hill, in the midst of mountains: it stands close to the junction of two small rivers[2] with the *Glommen,* immediately after it issues from the *Oresund* Lake. Close to the town are the *smelting-houses:* above it appear heaps of roasting ore, which yields a great quantity of the finest *sulphur;* but the pro-

Effect of sulphureous exhalations.

(2) The *Han,* and the *Hitter.*

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prietors of the works are not careful to collect it: the *sulphur* is seen covering all the smoking heaps; and its vapours, frequently descending, fill all the streets of the town, so as often to affect the respiration of the inhabitants. As we rode by some of those heaps, the suffocating fumes from them were almost as powerful as those which fill the crater of *Vesuvius* after an eruption. A Physician belonging to the place told us, that these sulphureous vapours produced the most pernicious effects. The Director of the mines assigned, as a reason for not saving the *sulphur*, that the expense of so doing would exceed any profit that might be derived from it. They would be under the necessity of sending it, by land, to *Trönÿem* for exportation; there being little or no demand for it in *Norway*, owing to the want of powder-mills. All the *copper* of the *Röråås* mines is sent to *Holland*, and to the *Rhine*. The *Danish East-India* Company wished to purchase it, for exportation to *China;* but it was found that *English copper* sold at a lower price in *Copenhagen* than the *Röråås copper* could be afforded, when carried thither. The principal mines are three in number: the first is called the *King's Mine;* the second, *Klinken's Mine;* the third, *Mug's Mine*. One tenth of all the ore raised belongs to the

Exportation of Metal.

Crown; but the *mines* are, all of them, the property of private individuals. A very remarkable kind of *breccia* or *pudding-stone*, containing a variety of substances, occurs in and near the road leading to the mines: it resembles the aggregate of which the rocks are composed near *Oban* in *Scotland*. *Pot-stone* is also found here. The number of houses in *Röråås* amounted to 325; and of the inhabitants, about 1700 persons. The interior of an apothecary's house afforded us, of course, some little insight into the state of Medicine in this remote corner of *Norway:* it was not at so low an ebb as we had generally found it. *Opium* was little used, because the inhabitants are strongly prejudiced against it: they have excellent *bark* from *Amsterdam*, of which they make an essence. The common drink of the people is beer: it is almost always sour. By way of sauce for their food, they eat, as in *Sweden*, the different species of *Vaccinium* and *Rubus*, the *whortleberry*, the *cranberry*, and the *cloudberry*. In this manner, the flesh of young *rein-deer* was served at our table. We thought it like *veal*, but had a better flavour.

State of Medicine.

Upon the next day (*Sunday*), the *miners* having received a month's pay, there was a good deal of rejoicing, and a miners' ball in the evening.

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National Dances.

We attended the latter. The national dances of *Norway* differ from those of *Sweden*. The most common are the *Halling* and the *Polsk* dances. We saw both of these at *Röråås*. The first is, undoubtedly, the dance of *Hippoclides* the *Athenian*, when contending with other rivals for the daughter of *Clisthenes*; namely, a dance in which the performer, standing upon his head, kicks his heels about in the air as his hands[1]. The other, that is to say, the *Polsk*, answers the account which *Herodotus* gives of the *Attic* dance performed to the *Emmeleia*, which, by its indecency, offended *Clisthenes*[2]. When we reached the room, in which the *miners* with their lasses were assembled, they were beginning the *Polsk*. In this dance a circle is formed, and two begin, turning each other something after the manner of a *waltz*. Presently the male dancer throws up his feet nearly as high as his head, squeaks, falls on his knees; and in this posture, leaning back till his head touches the ground, he beats the floor with his knuckles, and practises every possible grimace, look, and attitude, that may

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(1) See the *Vignette* to this Chapter. Τὸ τρίτον δὲ, τὴν κεφαλὴν ἱστάντα ἐπὶ τὴν τράπεζαν, τοῖσι σκέλεσι ἐχειρώμησε. *Herodot.* Hist. vi. tom. 3. p. 132. Edit. *Schweighæuseri*, 1816.

(2) Ibid.

express lasciviousness; then rising, without the assistance of his hands, he dodges his head this way and that, and at length catching his partner in his arms, more waltzing takes place, and the dance concludes. When they all dance the *Polsk* together, the different couples move round to tunes resembling our *English* hornpipes; each man, as he comes opposite to the spot where the fiddler stands, for this is the signal, throwing up his heels in the manner before mentioned; squeaking, and exhibiting his amorous propensities as was described. During these movements the tune often changes, as in the *waltz*. Being provided with partners, we joined in the dance, at which they were all much delighted. It was quite surprising to observe with what agility, in the midst of all this leaping and turning in a small room, they managed to keep clear of each other. A tread from one of their feet, which descended upon the floor with shocks like so many paving-hammers, would have crushed the toes of the women, had it not been for this circumstance. The men universally wore red woollen night-caps; the women short jackets; each of them, in the dance, holding a handkerchief in her right-hand. The *Halling* is considered in the country as the older dance of the two: it is frequently performed by men

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only; and sometimes both the *Polsk* and the *Halling* are performed to the same tune[1].

Price of Commodities.

Rein-deer skins were so cheap in *Röråås*, that a very good pelisse, made of these skins, might be purchased for three dollars. Other things sold at low prices. We bought fine old hock, in pint-bottles, at eighteen-pence *English* the pint: it is much dearer even in *Hamburgh*. The Director of the mines called to take his leave, and gave us letters of recommendation to the Director of the silver-*mines* at *Kongsberg*. He told us, that the population of *Röråås* was between 1750 and 1800, which agrees with what we have before stated. The latitude 62°. 34′. 40″.

Departure from *Röråås*.

We left *Röråås* this morning (*Sept.* 23), at eleven o'clock A.M.; a light snow falling; the first we had seen, excepting upon the distant mountains. We ascended a bleak and barren tract of hills towards the sources of the *Guul* River, by the side of which our course to *Trönjem* was directed. When we had gained the heights, the range of landscape below us was like that which is seen in the passes of the *Apennines*; but as we advanced, it soon changed, and

(1) See the *Vignette* to this Chapter.

assumed the wildest aspect of bold and sublime scenery. We could not call it *Alpine* (although it had a great resemblance to some of the finest parts of *Switzerland*), because it possessed something of richness and beauty belonging to no other *Alpine* country: in fact, it was *Norwegian;* and it is the peculiar characteristic of the *Norwegian* mountains, to combine the grandeur of *Alpine* scenery, with the dark solemnity of the groves of *Sweden*, and the luxuriant softness of the vales of *Italy*[2]. The condition of the poor in *Norway*, and the state of morality among the lower orders, will not bear a comparison with *Sweden*. We have before remarked, that we saw not in all *Sweden* a single instance of persons begging upon the highway or in the towns. When we descended upon the village of *Hoff*, we were teased by importunate mendicants, and revolting objects, such as one sees in *Ireland*, making the most painful and disgusting exhibition to extort charity. The manners of the people differ, exceedingly, in *Sweden* and *Norway*. In the former country, we were welcome everywhere to what we had; no demand of payment

Manners of the People as opposed to the *Swedes*.

(2) "The verdure in the *Norway* valleys is peculiarly soft, the foliage of the trees luxuriant, and in summer no traces appear of a Northern climate."—*Malthus on the Principle of Population*, p. 198 (*note*). *Lond.* 1803.

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was ever made; and the little we gave at parting always afforded an ample satisfaction. Here we began to observe the first symptoms of a difference, which was afterwards more strikingly manifested. Our hostess was covetous and imposing; and as we proceeded, we found it difficult to satisfy avarice, by paying whatever they asked. The cause of this may easily be explained: the country is more inhabited and more wealthy, and, the means of subsistence being more easily attained, the stimulants to active industry are less severe. Intoxication, rare among the *Swedes*, is common in *Norway*. The *Norwegians* are a less virtuous, but they are a more lively people, and possess many amiable and valuable qualifications. Hospitality is not rendered oppressive, as is often the case in *Sweden;* but among the higher order of *Norwegians*, it is most liberally bestowed: there cannot be found upon earth a more generous or disinterested race of men[1]. In the post-book at *Hoff*, we again saw the names of our two friends, with the date of their visit, *July* 23. One of them had been collecting, in this, as in

Hoff.

(1) There may be some appearance of anticipation, in making these remarks; but upon entering the country, the author wished to prepare the reader for the observations that follow.

other parts of *Norway*, facts, to elucidate a work[2], which, after the opposition it experienced from half-witted writers, has at length classed him in that degree of eminence as a philosopher, to which, by his great abilities, he is so justly entitled. CHAP. IV.

Leaving *Hoff*, the grandeur of the scenery increases at every step. We arrived at some *smelting-houses*, situate in a profound abyss, surrounded by cataracts, and in the midst of the roaring waters. The *mine*, whence the ore here smelted is taken, lies in a neighbouring mountain. This ore differs from that of *Röråås*, in being a purer *sulphuret of copper*, and in having a richer aspect. The diaphanous *quartz*, for which the *Röråås* mine has been celebrated, is also obtained here, and in finer specimens: also, very brilliant and beautiful cubic crystals of the *sulphuret of iron*. There are masses full of these crystals, possessing a high degree of lustre, and of the size of dice. A continuation of the same grand *Alpine* scenery delighted us the whole way to *Soknæs*. The road following the course *Soknæs.*

(2) "An Essay on the Principle of Population;" or a view of its past and present effects on human happiness, &c. by *T. R. Malthus*, A.M. late Fellow of Jesus College, *Cambridge*, and Professor of History and Political Economy in the East-India College, *Hertfordshire*.

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of the *Guul*, was generally in the depth of profound valleys; but sometimes, traversing the side of a mountain, we overlooked the river from a lofty precipice, and saw flocks and herds grazing over all the pastures near it, and up the sides of the mountains to their very summits. One of the most remarkable sights is here afforded by the *farm-houses*, which seem to hang upon cultivated spots, one above another, until they reach the clouds. We often saw clouds skirting the side of a mountain, with the prospect of a rich harvest standing far above them; cattle, corn-sheaves, and labourers, in places apparently inaccessible. The fact is, that a preference is often given to such an elevated situation; for the higher the land is, the more sun it gets. A fine evening-sun shone warmly on the fields, where harvest was collecting towards the tops of the mountains, when all below was dark or shadowy: between *Sindsåås* and *Soknæs*, this kind of scenery is particularly striking. We observed, before and after our arrival at *Bogen*, high perpendicular naked rocks, with woods and farms upon their summits. We passed a very remarkable mountain: its form was perfectly conical; but it was very lofty, and covered with trees. We observed great cleanliness in the habits of the

Farms above the clouds.

people throughout this route, excepting in the inn at *Soknæs*, which was more dirty. Here we gained the high road leading from *Christiania* to *Trönÿem*, which we were very eager to reach. The son of the owner of the poor inn had a genius for painting, and delineated the costumes of the country with humour and accuracy. His chief employment consisted in painting sledges, trunks, and the walls of his father's house.

The next morning (*Sept.* 25) we set out for *Trönÿem*, and crossed the *Guul* by a ferry: its waters, limpid as the purest crystal, ran rapidly at the feet of mountains, presenting, towards the river, precipices of many hundred feet of naked rock, tinted with vivid colours. Tempted by the delightful appearance of this river, the author was induced to bathe: when he plunged into it, the temperature of the water was nearly that of ice, and he felt the effects of his folly a long time afterwards. The chill that it gave to his blood was such as he never felt by cold-bathing, during the hardest winter in *England*; yet the climate here cannot be very severe. Hazel-trees, bending with nuts, grow plentifully by the side of the road; and other trees appeared in much greater variety and luxuriance than in *Sweden*. The landscape now became bolder and more open; the corn still standing; the

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road broad and excellent. Farms in great number appeared on all sides, affording, by the variety and singularities of their situation, the most beautiful objects. We passed many elegant country-seats. The outsides of all of them were painted red; they had sashed windows, and the frames of the windows were painted green. The form and neatness of these rural retreats shewed their owners to possess a good deal of taste: they were generally oblong buildings, consisting of one floor. But the farm-houses afforded the most interesting sight, to us. If any one wishes to see what *English* farmers once were, and how they fared, he should visit *Norway;*—immense families all sitting down together at one table, from the highest to the lowest. If but a bit of butter be called for, in one of these houses, a mass is brought forth weighing six or eight pounds; and so highly ornamented, being turned out of moulds, with the shape of cathedrals set off with *Gothic* spires, and various other devices, that, according to the language of our *English* farmers' wives, we should deem it "almost a pity to cut it." Throughout this part of *Norway*, the family plate of *butter* seemed to be the state-dish of the house. Wherever we sat down to make a meal, this offering was first made, as in the

Resemblance to *English* Customs.

tents of the primeval *Arabs*, when *Jael*, the wife of *Heber* the *Kenite*, "brought forth butter in a lordly dish." But every thing is much dearer than in *Sweden*; and what is worse, when it has been dearly paid for, the traveller has not the satisfaction which is enjoyed throughout *Sweden*, of leaving behind him countenances of cheerfulness and gratitude. These remarks, of course, are only applicable to the *inns* of the country. Possibly, in many of the *farm-houses*, a traveller would find as hospitable a reception as in the cottages of the *Swedish* fishermen and hunters in *Herjeådalen*, where *inns* can hardly be said to exist. We entered one of the largest farm-houses. Here we found twenty persons, all members of one family, assembled at the same table, eating their favourite harvest-pudding, out of large wooden bowls. This pudding is made of barley, and served hot. Into this mess, which resembles what is called hasty-pudding in our farm-houses, they dip their spoons: the spoon, being half filled with it, is afterwards dipped in milk, and with this sauce they eat it. At the head of the table sate the grey-headed patriarch of this numerous family, surrounded by his children and his children's children; for among the healthy and handsome young persons present, there were his sons and their wives, his daughters and their husbands;

Description of the Interior of a Farm-house.

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and many of his grand-children ran towards him, clinging to his knees, as being alarmed at our intrusion: but we soon became better friends with these little ones, who began romping with us, while one of the old man's sons saddled a couple of horses. We had walked before the carriage, which, being detained for horses, did not arrive. Two of the young men accompanied us to *Melhuus*, the next post-house: where we beheld a very different groupe, in a party of dragoons round a table at cards, drunk, turbulent, and fighting with each other. In *Norway*, if the traveller do not use the precaution of previously ordering horses at the different relays, before he begins his journey, he will sometimes have to wait for them two or three hours upon the road. And when horses have been ordered, if he be not punctual to the time fixed, he will be compelled to pay double the hire of them for the next stage; but if, on the other hand, the horses be not ready when he arrives, a fine is levied upon the postmaster, and the amount of it given to the poor. Our next stage was to *Oust*; whence, not finding horses ready, we set out on foot, determined to walk to *Trönÿem*, the distance being only one *Norwegian* mile and a quarter[1].

Melhuus.

Oust.

(1) The *Danish*, or *Norwegian* mile, contains 8223 *English* yards.

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Appearance of the Country towards *Trönijem.*

As we drew near to *Trönijem*, the country appeared less woody, because more cultivated. Gentlemen's country-seats, in great number, fill the prospect in every direction. The gardens belonging to these villas are in the *Dutch* taste, being ornamented with clipped hedges, box-inclosed borders, tulip beds, leaden mercuries, wooden cherubs, and spouting swans: and this formal arrangement, in a country where Nature herself assumes everywhere else a savage aspect, has by no means an unpleasing appearance. In *England*, where almost every acre shews the triumph of cultivation, the novelty of wild scenery has introduced a taste for restoring pleasure-grounds as nearly as possible to their natural state: but in a wilderness, we gladly dispense with a little of irregularity, and, especially under a *Polar* climate, hail the formality of a flower-border, and the stiff neatness of straight garden-walks, as so many symptoms of civilization. Perhaps to similar causes may be attributed the taste which prevailed among the *Romans* for this style of gardening. To them, *England*, and many other countries, were originally indebted for the old-fashioned shapes of birds and beasts, into which *box* and *yew* trees were formerly clipped, and for the regular parterres into which their flower-gardens were dis-

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tributed[1]. Notwithstanding these little ornamented patches, there was still enough to denote our vicinity to *Arctic* regions; the *Betula nana* and the *Rubus Chamæmorus* still covered all the bogs; and the *Field Gentian* bedecked the hills. We began to grow tired of our walk, when, having ascended a steep eminence, and turning suddenly round the corner of a rock, the glorious prospect of the City of *Trönÿem*, covering a peninsula in the finest bay the eye ever beheld, appeared far below us. Its rising spires and white glittering edifices immediately reminded the author of the city and beautiful Bay of *Naples*, to which it is somewhat similar. In the latter, the grandeur of *Vesuvius*, the cliffs and hanging vineyards of *Sorrento*, the shining heights and shores of *Capri*, with all the orange-groves of *Baia*, the rocks and caverns of *Posilipo*, possess, besides their natural beauties, a variety of local attractions, which, for the delights they afford, place them above every thing else in *Europe*: but, considered only in point of picturesque beauty, the Bay of *Trönÿem* does not yield to the Bay of *Naples*. It is everywhere land-locked by mountains, which resemble, as

Prospect of the City.

(1) "Alibi ipsa buxus intervenit in formas mille descripta." *Plin. Epist.* lib. v. Ep. 6. p. 349. *Amst.* 1734.

to their height and distance from the eye, those which surround the Bay of *Naples*; *Vesuvius* alone excepted. The *Castel del' Uovo*, so distinguished a feature of the *Neapolitan* Bay, is eclipsed by the appearance of the isle and fortress of *Munkholm*, opposite to the town of *Trönÿem*. Up and down, in every direction near the town, appear the villas of the merchants; and riding at anchor in the bay, ships of all burden, and boats passing and repassing. Among these, the boats of the natives are distinguished by the peculiarity of their construction, because they are always rigged with a large square sail, and have a single mast: in these vessels they venture to any part of the coast. The town itself is fortified, and the works are in the best condition; the ramparts and fosse being covered with a smooth green turf, kept in the finest order.

Arrival at *Trönÿem*.

This city, once the capital of *Norway*, and residence of her Kings, by no means corresponds, in its actual appearance, with the accounts published of its diminished state and ruinous appearance[2]. Although the last town towards the

(2) "NIDROSIA Civitas olim potentia, et sede Regia et Archiepiscopali eminentissima, totiusque Norvegiæ caput, et arca Regiorum monumentorum Norvegicorum, ut *Pontan. lib. 5.* p. 77. loquitur. Appellationem Latinam deduxit à fluvio *Nidero*, cujus ostium obsidet. Mercaturæ et negotiationis

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Pole, the traveller viewing it sees nothing but what may remind him of the cities of the south. It is of very considerable size: its streets are wide, well paved, and filled with regular well-built-houses, generally plastered and white-washed. There is no part of *Copenhagen* better built, or neater in its aspect, than the streets of *Trönÿem*. Its market is held in a square formed by the meeting of four principal streets. In the centre of the square is an excellent conduit, supplying the inhabitants constantly with the purest limpid water. Upon the north side of this square stands the finest wooden house in all *Norway*; a magnificent building, the residence of the General *Commandant*. Beyond this building, the view is terminated by the sea, by *Munkholm*, or *Monk Island*[1], and by the mountains on the *northern* side of a beautiful bay. Looking down the street, which extends *westward*, the prospect of the town is more suddenly intercepted by the

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negotiationis causâ ab exteris æquè ac inquilinis frequentata. Celebritatis famâ aliquâ gaudet, quamvis nec vallo, nec fossis septa, sed ubique aperta, pagi potius, quam oppidi speciem præ se ferat. * * * Antiquo more ædificia constructa sunt, palatiumque Regium magis ac magis collabitur. Nam anno 1522 ipso S. Johannis Baptistæ festo die incensionem tam vehementem passa est, ut usque ad Præfecti domicilium conflagraverit. Ab eo tempore pristini splendoris recuperandi occasio nunquam hactenus se ipsi obtulit." *Deliciæ sive Amœnitates Regnorum Daniæ*, &c. p. 1225. *L. Bat.* 1706.

(1) So called from a monastery formerly situate upon this small island.

summit of a bold and lofty mountain, towering high above the tops of all the buildings: the road from *Christiania* traverses and descends a part of this mountain, as it approaches nearer to the city. Casting the eye *eastward*, another mountain also appears, less lofty, and covered with cultivated fields, in which a rich harvest at this time was displayed above the tall masts of the shipping lying in the river *Nid*. From this river the city had its antient name of NIDROSIA[2]: after surrounding the town upon its *southern* and *eastern* side, it falls into the bay. Again surveying the city from the central square along the street which extends *southward*, the land here gradually rises: passing the Academy and Public Library, on the right, it is afterwards terminated by the venerable remains of the old *Cathedral*, a *Gothic* structure of exquisite pristine beauty, although now disfigured by modern repairs: it was built so early as the *eleventh* century. In the street which extends *eastward* from the square, is the principal inn; a large mansion, with a small garden in front, surrounded by painted rails, and full of dwarf cherry-trees: at the time of our arrival, their branches were laden with fruit, adding a very unexpected

(2) Vide *Amœnit. Regn. Daniæ*, &c. in loco citato.

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ornament to the street of a city in such a latitude[1]. Opposite to this house is a Church; a large modern edifice, containing nothing, excepting its organ, worthy of notice. There is also an organ in the Cathedral, and another in a church belonging to the Hospital. In describing the appearance of the central square and the streets leading into it, we have given the main plan of *Trönyem*; but, parallel to the four principal streets, there are others, little if at all inferior, either in beauty or magnitude.

Reception of Strangers.

The accommodations here are of the best kind; and a traveller finds himself, upon his first coming, as well provided for as if he were in the Capital of *Denmark*. It is expected that a stranger, upon his arrival, should leave his card with the General *Commandant*, and with the principal people. If he bring with him letters of recommendation, the persons to whom they are addressed conduct him round, to call upon the other families: after this ceremony, invitations pour in from all quarters, and in much greater number than it is possible for him to comply with. The inhabitants are not less distinguished by their politeness than by their hospitality. Their houses are thrown open to

(1) 63°.24′. of north latitude.

strangers in the most generous manner; but upon entering them, a degree of elegance is apparent, both in their furniture and in the form and disposition of their apartments, not seen in any of the *Swedish* towns, excepting *Stockholm*. Their customs are, to rise with the sun, when they take a small breakfast; and at nine they have a kind of luncheon, which they call *Duel*. At twelve or one, they dine: the dinner is followed by coffee: and in the evening they drink tea and play at cards; when punch is always served. About ten they usually sup, but do not go early to bed. The lower order of people, in summer, sit up the whole night, and take no sleep for a considerable length of time. Sunday is, in fact, their sleeping day: if they do not go to church, they spend the greater part of the sabbath in sleep; and in winter they amply repay themselves for any privation of their hours of repose during summer. The young men of the best families, in *Trönijem*, possess a thirst for literature, and are as desirous of a University as their fellow-countrymen of *Bergen* and *Christiania*: but this was denied to them by the policy of the *Danish* Government; it being the wish of the Court that the *Norwegians*, resorting for their education to *Copenhagen*, should spend their money in the capital, where their morals become vitiated, and their manners softened and de-

Manners of the Inhabitants.

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praved by luxury. The two countries of *Denmark* and *Norway*, although united, were held together by no common tie;—almost as much hatred existing between a *Dane* and a *Norwegian*, as between a *Norwegian* and a *Swede*. Their national Song[1], so expressive of patriotic

National Song of the *Norwegians*.

(1) Nothing can give to a stranger, in *Norway*, a more powerful claim upon the affections and friendship of the people, than repeating a verse of this Song, or even quoting the two first lines of it, in convivial company, as a toast. We shall, therefore, insert the original in the *Norwegian* language; together with a free translation of it made by Miss *Parsons*, preserving, with the tenor of the original, much of its spirit and character, and being adapted to the same air.

For Norge, Kiempers Föde-land,
Vi denne Skaal udtömme,
Og, naar vi först faae Blod paa Tand,
Vi södt om Friehed drömme;
Dog vaagne vi vel op engang,
Og bryde Lanker, Baand og Twang.

CHORUS.

For Norge, Kiempers Föde-land,
Vi denne Skaal udtömme, &c.

En Skaal for Dig, min kiække Ven,
Og for de Norske Piger,
Og har Du en, da Skaal for den,
Og Skam faae den, som sviger,
Og Skam faae den, som elsker Tvang,
Som hader Piger, Viin og Sang.

CHORUS.

En Skaal for Dig min kiakke Ven,
Og for de Norske Piger, &c.

Og nok en Skaal for Norske Field,
For Klipper, Snee og Bakker,
Og Dovres Echo raaber Held,
For Skaalen tre Gang takker,
Ja tre Gang tre skal alle Field
For Norges Sönner brumme Held.

CHORUS.

Og nok en Skaal for Norske Field,
For Klipper, Snee og Bakker, &c.

The

feeling, and of the longing which all the *Norwegians* entertain of an emancipation, was heard

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[1] *The Same, translated, and adapted to the same Air, by* Mrs Parsons.

To Norway, Valour's native sphere,
We drink with boundless pleasure;
O'er wine, we dream of freedom near;
In fancy grasp the treasure:
Yet shall we at some period wake,
And bonds compulsive nobly break *.

CHORUS.

To Norway, Valour's native sphere,
We drink with boundless pleasure, &c.

One glass to Friendship's shrine is due,
One to Norwegian beauty;
Some Nymph, my friend, may claim for you
From us this welcome duty!
Curse on that slave, who hugs his chains,
And woman, wine, and song disdains!

CHORUS.

One glass, &c. &c. &c.

Now, Norway, we thy mountains boast,
Snow, rocks, and countless wonders;
Lo! Dovre's† echo hails the toast,
And thrice 'rapt plaudits thunders:
Yes, three times three, the hills around
Shall "Health to Norway's Sons!" resound.

CHORUS.

Now, Norway, &c. &c. &c.

* It is almost impossible to translate the two lines of the original as they occur here: they contain an antient figurative expression, which literally might be thus rendered:

When we "*first see the blood upon our teeth,*"
We shall have sweet dreams of liberty.

By which is meant, "*When we cut our teeth,*" i.e. When we emerge from the infant state of knowledge in which our country is involved, or when we become more enlightened;—the sanguinary spirit it seems to breathe being wholly inconsistent with the disposition of the *Norwegians* of the present day.

† The mountain called *Dovrefield*.

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with rapture, and resounded in every society, from one extremity of the country to the other; being the oftener sung, because it had been prohibited by the Court of *Denmark*. In the room under the apartments in which we lodged, an evening club was regularly held; where a large party being always assembled, we used to hear this national air chaunted with a degree of enthusiasm, emphasis, and passion, greater than we ever remembered to have been called forth by the national songs of any country, if we except our sacred anthem, "*God save the King*." A great number of the inhabitants speak the *English* language; and, as it is so nearly allied to their own, they learn it with ease and expedition; many words, and even whole sentences, being the same in both. Clubs are common here. The principal people have a large house in which they assemble every evening: it contains rooms for billiards, cards, and supper. Every member is balloted for, before he is admitted. If a stranger arrive, his name, together with the name of the person by whom he is proposed, are placed upon a paper in the club-room; as he cannot be admitted, until a ballot has taken place, and he becomes a member. The games usually played in these club-houses are, whist, ombre, piquet, chess, and

Clubs.

billiards: the stake is always low, and there is not the smallest tendency to gambling at any of them. It was owing to these clubs that the Emperor *Paul* of *Russia* prohibited all commerce with *Trönÿem*; being under a false persuasion that they were of a political nature, and founded upon *French* principles of democracy. He would not suffer a *Norwegian* vessel to enter into any of the ports of his Empire. He was, therefore, almost as much detested by the people of this country as by his own subjects; and his name was never mentioned, but in terms of indignation and ridicule.

Population and Agriculture.

Within the last ten years, population and agriculture had wonderfully increased. Formerly, the inhabitants imported corn from other countries, in exchange for the product of their fisheries: now they had almost a sufficiency of corn of their own; and luxuries, rather than food, were becoming articles of importation. The population of the Province of *Trönÿem* was estimated at the average of forty-two persons for each square mile. The province is divided into eight districts, as follow:

Province of *Trönÿem*.

Districts.	Number of Persons.	Square Miles.	Persons on each Mile.
Nordmöer	15,087	105	144
Romsdale	10,295	88	117

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Districts.	Number of Persons.	Square Miles.	Persons on each Mile.
Fossen	11,106	61	182
Dalerne	26,138	221	119
Nummesdale	8,114	95	85
Inherred	25,162	497	51
Nordland	53,500	2,082	26
Finmark	5,984	1,244	5

and this estimate proves the average to be accurate, of forty-two persons for each square mile, for the whole province.

In the year 1785, the various towns in the Province of *Trönÿem* contained a population amounting to 9336 persons, and the exclusive territory 154,986. According to accurate observations made in the same year, the population of all the provinces of NORWAY was thus computed:

Province of	Extent in Square Miles.	Number of Persons on each.
Trönÿem	4,385	42
Bergen	669	228
Aggerhuus, or Christiania,	1,798	197
Christiansands	698	192

By a retrospective view of the state of *Norway* towards the middle of the last century, it appears that the aggregate of *births*, from the year 1743 to 1756, exceeded the aggregate of *deaths* by 64,003. From 1769 to 1785, the

increase in the aggregate of *births* amounted to 81,610. In the year 1769, the population of all *Norway* was thus estimated:

Province of	Number of Persons.
Trönÿem	170,722
Bergen	135,352
Aggerhuus	325,043
Christiansands . . .	117,024
Total . .	748,141

In the year 1785, there was found to be an increase, as before stated, of 81,610. The statement then made was as follows:

Province of	Number of Persons.
Trönÿem	186,995
Bergen	152,599
Aggerhuus	355,848
Christiansands . . .	134,309
Total . .	829,751

In the same year[1], the following estimate was made of the population in the towns of *Norway:* the number of inhabitants in *Iceland* being, at

(1) A *French* writer, Monsieur *Catteau*, has given an account of the population of some of the towns of *Norway*, as it stood in 1769, and by mistake inserted the numbers according to the estimate made in 1785. According

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the same time, 46,201; and in the *Feroe Is*
4754.

Towns.	Number of Persons.
Bergen	13,735
Brugner	2,405
Brevig	195
Christiania	7,496
Christiansaun	1,151
Christiansand	3,034
Fridrichshald	3,834
Fredericstad	1,375
Holmstrand	688
Kongsberg	8,068
Krageroe	941
Langsund	58

According to the same writer, the following was the state of the popul
tion in 1799, in the towns here mentioned.

Towns.	Persons.
Bergen	16,000
Kongsberg	unknown.
Christiania	10,000
Tröonjem, or Drontheim	8,000
Fridrichshald	5,000
Christiansand	3,600
Laurvig	3,000
Bragnass	2,600
Skeen	2,000
Fredericstad	1,500
Moss	1,200
Christiansaun	3,000

This estimate, as it is evident, is too much in round numbers, to
accurate. He has stated the population of *Christiania*, in 1769, as o
equal to 1,496, which may be an error of the press.—*Voy.* "*Tableau
Etats Danois,*" *par Jean-Pierre Catteau*, tom. II. p. 109. *Paris*, 180

Towns.	Number of Persons.
Laurgrig	2,424
Molde	707
Porgrund	192
Skeen	1,809
Stavanger	2,154
Stromroe	2,034
Tonsberg	1,281
Trönÿem	7,478
Oster Risóer . . .	931
Moss	1,196
Mandahl	900
Total . .	64,086
Iceland . . .	46,201
Feroe Isles . .	4,754
Total . .	115,041

DENMARK supplies *Iceland* with corn, and in return receives wool and fish. We visited a *Dutch* frigate, which at this time was lying at anchor off *Trönÿem*, having lately returned from *Iceland*. The account given to us of the island, by the officers on board, was, that there are several small towns upon the coast, but that the country is wretchedly poor. The peasants, they said, speak and write *Latin* with fluency. They saw a curious *Icelandic* Manuscript in the hands of a Priest, who refused to sell it.

Mr. *Thomas Angel*, a merchant of *Trönÿem*, died in 1765, and, by his will, proved the

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Funds for Public Institutions.

greatest benefactor the city has yet known. He bequeathed the sum of 300,000 rix-dollars to be appropriated to public works, according to the discretion of the inhabitants. This sum has since been considerably increased, by voluntary contributions. Part of it has been used in erecting a School for the *Latin* and *Greek* languages; in defraying the expenses of forming public conduits; in building an Asylum for the Widows of Merchants and other inhabitants; in making improvements in the Asylum for Orphans, and in the public institutions for the poor. 'There is an Hospital for the Old and Infirm; and a House of Industry, where any person may find employment, and receive an adequate price for his labour. In the House of Industry, also, a certain number of young persons are instructed in weaving and in making stockings, and are paid a dollar a week. The House of Industry costs annually about 800 or 1000 dollars. No persons are admitted into the Hospital for the Old and Infirm until they have worked, or at least tried to work, in the House of Industry for two years. All whom we saw in the latter were employed in spinning, weaving, and making stockings; and most of the old women in the Hospital were spinning. The number of poor in *Trönijem* has, however,

reatly increased, in consequence of these bene-olent establishments; although they be well aspected, and great care has been taken not to dmit any but real objects of charity into the Iospital. The population of *Trönÿem* now mounted to ten thousand persons; and of this umber, twelve hundred received assistance rom the charitable funds. The dress of the poor in the Hospital was neater than in our *English* poor-houses. We saw also a kind of House of Correction, where persons who had committed small offences were confined, and compelled to labour. This house had been only established half-a-year; and it was not expected to answer, as the inmates, being crowded together in the same room, corrupted one another. It was in agitation to adopt some better plan. The prison at *Philadelphia* was mentioned as an excellent institution. In all the parishes, voluntary contributions are made for the maintenance of the poor: every person declares what sum he is willing to contribute yearly; and the funds are managed by persons expressly nominated for the purpose, something ther the plan adopted for the management of the poor in *Scotland*.'

'Within the last ten years, the common people have made great use of potatoes: many

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grounds about the town are planted with them, and with the *cabbage turnip*, which here attains unusual size and perfection. Wheat is never sown, nor much rye; but barley and oats thrive very well. Grass is cut for hay in the middle of *July:* the environs of *Trönÿem* produce very fine crops, and, at the same time, the barley is in full ear. Rye is the chief corn imported; but the most common article of food among the peasants is the oaten cake. Enough is generally grown in the country for its consumption; and, as was before stated, it is seldom necessary to import much, either of barley or oats. The barley, when imported, comes from *England* and *Scotland:* the rye, from the *Baltic*. When there is a plentiful year in *Scotland*, much oatmeal is imported, which is highly valued, and bought up with avidity. Apples ripen here; but not apricots, which succeed tolerably well at *Christiania*. Upon the whole, there is not that difference of climate which might be expected between the two places; perhaps owing to the greater proximity of *Trönÿem* to the sea. The bay of *Trönÿem* never freezes. The cold is not nearly so great here as at *Röråås*, which lies more to the south. It should have been before stated, that during the last winter at *Röråås*, the mercury in the thermometer and barometer froze

naturally: but this intense frost lasted only three days; and throughout the northern part of *Norway*, it had generally been considered as a mild winter, although great apprehensions were entertained lest every thing would be killed on account of the small quantity of snow. The inhabitants complain much of the uncertainty of the weather in the summer: one day may be excessively hot, and the next quite cold: the transition sometimes takes place in the course of a single hour. In winter, the climate is much more regular: and they have, in general, a clear sky. As a proof that cultivation is going rapidly forwards, it is sufficient to state, that, notwithstanding the great increase in the population, of late years, there has been no increase in the importation of corn, but rather the contrary. The people on the sea-coast are the poorest, and suffer the most: in general, they marry young, and have large families, which they hope to support by fishing; and in a bad year, when the fisheries are unsuccessful, they are reduced to extreme poverty. The people in the interior parts of the country seldom marry till they can get a place in which they may support a family; and this does not always happen while they are very young. The chief exports of *Trönÿem* are, *fish*, *deal-planks*, *tar*, and *copper*:

Climate.

Exports.

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three hundred thousand *shippounds* of *copper* are exported at *Trönÿem* from the mines of *Köröös* only.

Rapidity of Vegetation.

'The rapidity of vegetation on some spots, and in some years, has been very extraordinary. On a farm to the south of *Trönÿem*, two crops of barley were reaped in the same year: and the year before our arrival, a similar instance had occurred on a farm ten miles north of *Trönÿem*. It is not uncommon for barley to be reaped six weeks after it has been sown. Some of the valleys have a most fertile soil; and being shut out from all winds, retain the heat very much: add to this, that the sun is so long above the horizon, that the mercury in *Fahrenheit's* thermometer, during the short night, often does not fall below 60°; and it may be imagined what the effect must be upon vegetation. It generally happens, that the ground is prepared, the seed sown, and the harvest reaped, in the course of two months. The grass grows under the snow; and it is a custom here to throw ashes upon the snow, to hasten its melting. The severest cold in winter is in general about 17° or 18° of *Réaumur:* last year, for two days, the mercury in his thermometer was at 20°: in summer it is sometimes as high as 21°.'—The state of the *thermometer*, estimated according to

the scale of *Réaumur*, is noted every day, and inserted in the Gazette which is published every *Saturday* morning. Very erroneous accounts have been given, in other countries, of the climate here. *Linnæus*, describing the temperature of the same latitude, says the winter returns, without autumn, before the end of *August*. We did not leave *Trönijem* before the third of *October;* and the heat of the sun was at this time so great in the streets, that we could not walk without undergoing a copious perspiration. The inhabitants had then in their gardens many plants in flower; a beautiful blue *Gentian*, the *Gentiana campestris*, covered the tops of the hills; and ripe *cherries, apples, plums*, and *pears*, were hanging upon their trees. The *birch*, it is true, was dropping its leaf, but every other forest-tree was in full foliage. During the time we staid, we had neither frost nor snow, but the most serene and delightful weather imaginable. At the same time, the *English* papers mentioned very stormy weather in our own country.

Commerce with *Ireland.*

The commerce of *Trönijem* is carried on chiefly with *Ireland;* and it is to the *Irish* that the strange names of *Dronton* and *Drontheim*, as applied to this city, are to be attributed. With *England* the inhabitants have little intercourse;

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which is a principal cause of the ignorance that has so long prevailed in *England* respecting this place and its worthy enlightened inhabitants. A *French* author describes the latter as "*wild Laplanders, very like bears*[1]." The trade with *Ireland* is owing in great measure to the shortness of their *deal planks*, for which they would hardly find a market in *England;* but, besides this, the duty in *England* is the same whether the *deal planks* be short or long; whereas in *Ireland* it is said to be proportioned to the length. Their ships sail also to the *Mediterranean;* whence they return with freightage for *Hamburgh*, and from thence proceed to the *Baltic*. In the *Baltic* they are freighted with corn, and then return to their own port.

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(1) Voy. *Nouveau Voyage vers le Septentrion*, &c. *Amst.* 1708.

Bay of Trönjem, and Castle of Munkholm, as viewed from the City.

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TRÖNYEM.

Public Buildings—Cathedral—Church of Nôtre Dame—*Hospital, and* Baklan *Church—Latin School—Public Library—Antiquities found in the Isle of* Lekoe—*Other Rarities—Schools—Asylum for Widows—Almshouses—Arsenal—Fortress of* Christiansteen—*Fortress of* Munkholm—*Narrative of* Count Griffenfeld's *Confinement—Custom House, and Town Hall—Other Public Works—Courts of Justice—Education of the Lower Orders—Fair—Anecdotes of Two* Finn-Lapps—*Military Force of the Government — Manners of the Inhabitants — Entertainments—Cascades of* Leer Fossen—*Friendship of the* Norwegians *towards the* English—*National Prejudices—Aphorisms—Lake* Törgvillan—*Route to* North Cape—*Prospects—Skill of the Natives in carving wood—*

Wild

Wild Animals—Horticulture—Kale raby—Longevity of the Norwegians—*Mons.* De Latochnaye.

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Public Buildings.

THERE are not less than eighteen Public Edifices in *Trönjem.* We shall mention all of them, in numerical order.

Cathedral.

I. THE CATHEDRAL.—This is an antient *Gothic* structure, of great pristine beauty; though now so disfigured by modern repairs, by the ravages of frequent fires that have taken place in the city, and by the hand of time, that little of its original perfection remains: judging, however, from the parts which are still entire, there is enough to prove that it was one of the most magnificent ecclesiastical structures in *Europe;* and, according to the accounts given of it, there was nothing in all *Christendom* to equal this Cathedral in elegance and grandeur[1]. It bears date so early as the *eleventh,* some say the

(1) The author of the work before cited, mentioning another destructive fire that happened in *Trönjem* in 1530, thus describes the splendour and beauty of this Cathedral. "Accessit A. 1530, alterum incendium, quod templum Cathedrale corripiens, et in cineres redigens, nil nisi sacram Cellam, seu Chorum, ut vocant, reliquit. In eo hodie cultus divinus canendo, precando et concionando peragitur. Ædificium fuit magnificentissimum, cætera totius Europæ templa omnia splendore superans, imo in toto Christiano orbe, ut quidam affirmant, ubi similis, aut par, non habens, sive artificium, sive amplitudinem spectes. Structura omnis quadrato lapide, et collumnis pulcherrimis, atque artificiosissimis unumquemque in admirationem rapiebat: quod facile patet ex ruderibus, et parietinis, quas ipsi temporum injuriæ reliquas fecerunt." *Delic. sive Amœnit. Regn. Daniæ,* &c. p. 1226. *L. Bat.* 1706.

tenth century; and was, in former ages, the resort of pilgrims from various parts of *Europe*. Part of the architecture is *Saxon;* the rest *Gothic*. Those who have seen the splendid remains of the Cathedral at *Elgin* in *Scotland*, will be able to call to mind something similar; but there is perhaps no other *Gothic* building now remaining which exhibits the same degree of lightness and airy elegance in the architecture. The sculpture decorating the arches, pillars, and doors, is of the most exquisite kind. Over the western entrance, which consisted of three portals finished in the highest style of *Gothic* beauty, there were statues of the size of life, profusely gilded. Some of those figures still remain, executed in a style of excellence, especially as to the drapery, which would not discredit the sculpture of Antient *Greece*. Formerly, a library of rare and valuable books belonged to this Cathedral; but most of them are now destroyed or lost. The inhabitants pretend that a complete manuscript of the works of *Livy* existed in this library; but that being taken to *Bremen*, it was removed to the Vatican at *Rome;* since which, all search after it has been made in vain. An arch of the most admirable workmanship separates the nave from the chancel. Over the altar we saw a large picture of the Crucifixion,

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a copy, tolerably well executed, from *Daniel de Volterra*. Near the altar, concealed by a door, there is a well, said to be that of *St. Olaus*, who first introduced Christianity into *Norway*. The western part of the nave is now without a roof: at that part of it which joined the centre of the building, opposite to the altar, stands a large organ. This Cathedral has suffered seven times by fire; but even the destructive element, so often directed towards its overthrow, has not disfigured it more than the modern reparations used to preserve it from total ruin. Here we saw Bishop *Pontoppidan*'s Epitaph, who was born in 1616, and died in 1678. It is a long *Latin* inscription, commemorating his merits and travels. Over it are the portraits of the Bishop, his wife, his son, and a young daughter. There are no other inscriptions worth notice. The most antient are in *Gothic* characters, but these are almost effaced.

Church of Nôtre Dame.

II. THE CHURCH OF NÔTRE DAME.—This is a plain and decent building, externally white-washed, situate in the *eastern* street from the square, opposite to the principal inn. It contains an organ. The first morning after our arrival, seeing carriages waiting at the door of this church, we entered, and were present at the marriage of two servants, belonging to dif-

ferent families in the city; upon which occasions, their masters and mistresses, according to custom, attend in full dresses, accompanying the bride and bridegroom in their carriages. The service had nearly concluded, when we entered. The bride was in a pew upon the left, with three other ladies. Her head and waist were entirely covered with flowers[1]; and her hair, curled and powdered, was in full frizzle. The bridegroom, in an opposite pew upon the right, was attended by an officer and two other gentlemen. A large posy, according to a custom noticed by our Poet *Spenser*[2], was placed before him. The priest was singing at the altar, ascompanied by the organ: when he had finished, he passed out by a door behind the altar, and the ceremony ended. The bride and bridegroom were first handed to their carriage, and the attendant ladies and gentlemen followed after; the whole affording an honourable proof of the reverence in which wedlock is held, among the respectable inhabitants of this city,

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(1) Corresponding with the Customs of the Antient *Grecians*. See the passage in *Euripides*, where *Clytæmnestra* tells *Achilles* she had crowned *Iphigenia* for the wedding.—*Iphig. in Aul.* v. 903.

(2) "With stone of vermeil roses,
To deck the *bridegroom*'s posies." *Spenser*.

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and by the very persons best calculated to offer an example to the lower orders.

Hospital.

III. THE HOSPITAL.—There is a church annexed to this building, containing also an organ.

Baklan Church.

IV. BAKLAN CHURCH.—This name means the *back-land* church. Here there is also an organ.

Latin School.

V. THE LATIN SCHOOL.—This constitutes one part of a large building in the south street, white-washed in front; containing also a *Museum*, and a chamber for the meetings of the *Literary Society*. It was built with part of the legacy of Mr. *Angel*. The *Latin School* occupies the ground-floor upon the right, to a person entering: it is divided into three chambers, which are filled with desks and benches. At the upper end of the third room is an elevated *cathedra* or pulpit for the principal teacher. Boards exhibiting the scales and principles of musical science are placed around this room;—music being here taught, together with natural history, and other branches of knowledge not commonly introduced into our *English* Academies. The chamber for the sitting of the *Literary Society* is over the *Latin School:* portraits of illustrious men who have rendered themselves conspicuous in *Denmark* and *Norway*, either by their valour or by their talents, hang round this chamber.

Among others, there is a portrait of *Tycho Brahe*. As portraits, they are worthy of notice; but on no other account; the style of painting not being above mediocrity. At the meetings held in this chamber, the Bishop presides. They have published several works, many of which exist in the libraries of *Europe*, but are becoming rare, and seldom may be purchased. The *Flora Norvegica* of *Gunner* is one of these. Opposite to this chamber is the *Public Library*; the books being arranged after the manner adopted in the different libraries of the University of *Cambridge*: it contains many rare and valuable works. The manuscripts are few in number, and of little value; but they have many of the best authors who have written upon the history, natural history, and antiquities of *Denmark* and *Norway*. A catalogue has been printed: the books are not numerous, but the list is yearly augmenting. At the end of the library is the *Museum*, a square chamber filled with antiquities, minerals, plants, animals, &c. Opposite to the entrance, in a glass-case, is a human body in a remarkable state of preservation; the skin only being removed, and every muscle displayed to view in the greatest perfection. Below the case containing this body are preserved the bones and weapons of a *Norwegian* King, discovered on the

Public Library.

Museum.

Antiquities found in the Isle of *Lekoe*.

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26th of *June* in the year 1780, in a *tumulus* in the Isle of *Lekoe;* and considered as affording a proof of the authenticity and fidelity of the *Iceland* historian, *Snorro,* who mentions the construction of this *tumulus.* An account of the person who was there buried is given by *Torfæus.* In the eighth Chapter of *Snorro*'s History of *Harold Harfagers,* he says, "The peasants of *Nummedale,* and the Kings *Herlaug* and *Hrollaug,* laboured during three years in constructing a sepulchre of stone, chalk, and timber, in the Isle of *Lekoe.*" This island lies off the coast of *Norway,* far to the north of *Trönijem,* about five minutes *north* of the 65th parallel of *latitude,* according to the large map of *Pontoppidan;* and in the parish of *Næröe.* It is further related by *Torfæus*[1], that when *Harald,* who had conquered all the south, came to wage war against these kings, *Herlaug* took much provisions into the sepulchre, and, being attended by twelve of his best men, entered, and was covered over. *Hrollaug* joined with *Harald,* and was made his Earl. This event, according to *Torfæus,* took place in the year 869. If we except the accounts given by *Homer* of the tombs in the *Plain of Troy,* this

(1) Hist. Norw. Part II. lib. 1. cap. iv. p. 8.

is one of the most curious instances that have occurred in history; because here we have distinct information, from the two historians, as to the origin and locality of an antient tomb; and such a description given of it as might lead us to infer that this tomb, although not older than the *ninth* century, was what we commonly call a *barrow:* whence the inference would be, that the other *barrows* of the north of *Europe* are, what this was, of *Gothic* or *Teutonic* origin. A little caution, however, is necessary, before any such inference may be made; as there seems good reason to conclude that the *tumulus* whence these bones and weapons were taken was not the sepulchre to which *Torfæus* alludes; but that it was a *Celtic*, rather than a *Teutonic* place of interment; because the mode of burial beneath *mounds* or *barrows* was not that in use among the *Goths*, but among the *Celts*. The circumstances attending the discovery of these reliques may be stated.

General *Von Krog*, the present *Commandant* of the garrison of *Trönÿem*, being with his troops in the Isle of *Lekoe*, found a *tumulus*, corresponding, in its situation, with the account given by *Snorro*. Its diameter was one hundred *ells;* and its perpendicular height, ten or twelve. The General commanded his troops to open it. Like many

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of the antient barrows, it was somewhat depressed, and sunk towards the centre. The peasants of the village of *Skye*, near the *tumulus*, had various traditions concerning it: they had found upon the spot antient rings and bronze vessels, which they converted into shoe-buckles. At the depth of about six ells, they came to a rude sepulchre, which, from the account the General gave of it, exactly resembled the graves found upon the Isle of *Barra*, in the *Western Hebrides*, and which the natives of *Barra* attributed to the *Danes*: it was paved with pebbles. Here they found a human scull, together with the other bones and weapons of a warrior. These are the reliques now preserved in this *Museum*, and exhibited as having belonged to *Herlaug*. But in viewing them, a question immediately arises; for if these be *Herlaug*'s remains, as mentioned by *Torfæus*, where are the remains of his twelve attendants, also interred with him? In answer to this, it is urged that the king was probably put to death, either by his own hand, or by one of his attendants, before his interment took place; and in this case they might afterwards retire, if they thought proper. But the remarkable circumstance mentioned by the historian, of his "*taking much provisions with him*," seems to contradict this; and the persons whom

he selected being "*his best and stoutest men*," with whom, it is said, "*he entered*," because he did not choose they should fall under the dominion of *Harald*, makes it almost amount to a certainty that this *tumulus* is not that to which *Snorro* and *Torfæus* allude; but a much more antient sepulchre, one of the aboriginal *Celtic* mounds, common over all the north of *Europe*; with whose history the *bronze* reliques found by the peasants strictly coincide.

Among the other curiosities, we saw the *Runic Tympanum*, or *magic-drum* of the *Laplanders*; used by them in their divinations and sorceries. This kind of drum, as we before stated, is becoming every day more rare; owing to the exertions of the Missionaries, who are indefatigable in their endeavours to destroy every trace of the *Lapland* instruments of superstition. We were never able to obtain one of them[1]; and, as we have before mentioned them, we shall now only refer the curious reader, who may wish for a full account of their strange hieroglyphics, and of the antient superstitions to which those characters refer, to the treatise of *Eric John Jessens*[2],

(1) Dr. *Fiott Lee*, during his travels in *Lapland*, was more fortunate. He has lately presented one of them, which he brought from that country, to the author, to be deposited in the University Library at *Cambridge*.

(2) Ericl Joannis Jessen—S, de Finnorum Lapponumque Norvegicorum

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affixed to the rare work of the Missionary *Leems* concerning the *Lapps* of *Finmark*[1]. We were so fortunate as to procure a copy of this work in *Trönÿem*. The Museum also contains other things which relate to the customs and history of the *Lapps*. From the ceiling are suspended the canoes, weapons, and utensils of the *Greenlanders*. Their knives, axes, and arrow-heads, wrought of siliceous substances, are so like the antiquities, called *fairy-speds*, found in *Scotland*, and believed by the lower order of people in the *Highlands* to be owing to supernatural agency, and which are also common to the *Esquimaux* tribes, that it is difficult to believe they were not the work of the same people, whether found in *Britain*, *Greenland*, or *North America*. The collection of *Natural History* is very little worth notice. Two tigers, presented by an officer, but in a bad state of preservation, are placed on an eminence in the middle of the room. The body of a large birch is shewn, which, when split by an axe, disclosed a horse-shoe, unaltered as when it was made, in the very heart of the tree. There are, moreover, magnificent specimens of

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corum Religione Paganâ Tractatus Singularis, unà cum delineatione Tympani Runici.

(1) De *Lapponibus Finmarchiæ*, &c. *Kiobenhavn*, 1767.

coral, from the *Norwegian* seas; and we saw that curious animal the *Lemming*, or *Mountain-mouse*, as preserved in alcohol. Among the minerals, we noticed some rare specimens of *native silver*, and also of *native gold*, as found among the *Norwegian* mines. A singular fossil was exhibited to us, upon which they placed more value than all the rest, because it was supposed to exhibit what the *Danes* call a *passage* from *Lime* to *Silica*: on one side it is soft enough to be cut with a knife, and effervesces in acids: upon the other, without any apparent separation or other distinction of parts, it resists the point of a knife, and scintillates when struck with steel. In the library, there is a superb copy of the *Flora Danica*, with coloured plates.

Schools.

VI. THE SCHOOL FOR THE CHILDREN OF THE MERCHANTS.—It contained at this time about forty-five Scholars, who were instructed in *English*, *French*, *Italian*, *drawing*, *writing*, *arithmetic*, &c. Their drawing-school was filled with designs from the works of *Raphael*, and some other of the best masters. It was extremely pleasing to observe, in these establishments, the evidences of the rapid march which the Fine Arts were making in their progress towards the North. A school of *Raphael*, upon the borders of *Finmark*! Another generation may perhaps

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hail the dawn of painting and poetry upon the shores of the *Icy Sea*[1].

VII. SCHOOLS FOR THE CHILDREN OF THE POOR.—They are severally annexed to each of the churches in *Trönÿem*.

Asylum for Widows.

VIII. ASYLUM FOR THE WIDOWS OF MERCHANTS.—In this establishment, sixteen widows are accommodated, with each a separate parlour, a kitchen, cellar, bed-room, and garret. They live in a neat and comfortable style; frequently receiving and returning the visits of the inhabitants.

IX. An establishment exactly similar to the preceding; also containing sixteen widows.

Alms-Houses.

X. THE HOSPITAL.—It is calculated for the reception of eighty patients; and has also adjoining apartments, with every accommodation for lunatics.

XI. THE POOR-HOUSE.—Persons of both sexes are received into this establishment. There is no part of the *Danish* dominions where a better provision is made for the indigent. In the country, the poor are supported by the peasants; every person, according to his circumstances,

(1) "In climes beyond the solar road,
Where shaggy forms o'er ice-built mountains roam,
The Muse has broke the twilight gloom,
To cheer the shivering native's dull abode." *Gray.*

being obliged to support, during a stipulated time, one or more of the aged and decrepid poor. This time is proportioned to the means possessed by the householder. The people are not liable to many disorders. The climate of *Trönjem* is proverbially wholesome; and the children, as they appear in the streets, are remarkable for the bloom of health by which they are distinguished.

XII. THE HOUSE OF INDUSTRY.—In this establishment, the poor are provided with the means of employment, and are regularly paid what they earn by their industry. Their usual occupations are spinning and weaving.

XIII. THE HOUSE OF CORRECTION.—We visited this place, and found it empty: and it is worthy of notice, that it has never been found necessary to send hither more than two or three persons in the course of a year.

Arsenal.

XIV. THE ARSENAL.—The site of this building was formerly occupied by the Regal Palace of the Kings of *Norway*. All that now remains of their place of residence is an old chamber, with a fresco painting upon stucco.

Fortress of *Christiansteen.*

XV. THE FORTRESS AND CASTLE OF CHRISTIANSTEEN.—It stands *east* of the town, upon an eminence above the river *Nid*.

Fortress of *Munkholm.*

XVI. THE FORTRESS OF MUNKHOLM.—This

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fortress occupies and entirely covers a small island in the bay, *north* of the town, distant about an *English* mile and a half. The breadth of the bay, in this direction, across, equals ten *English* miles. The fortress therefore, owing to its situation, adds considerably to the beauty of the prospect, as seen from all parts of the city and its environs[1]. It was formerly the site of a monastery; and from this circumstance it received its present appellation of *Monk Island*. The fortress is now a prison, for the reception of State-criminals sent hither by order of the *Danish* Government. There were several persons in confinement when we visited it, principally for coining and forgery. The fortifications are incomplete and irregular; but it is deemed a place of considerable strength, and is well furnished with artillery and ammunition. In the round tower of this fortress, which is a part of the old monastery, *Count Griffenfeld* was confined twenty-one years, during the reign of *Christian* the Vth. His original name was *Schumacher*; and he is said to have been one of the ablest politicians at that time in *Europe*, but that he had rendered himself odious to the *Danish* Government, by persisting in measures for peace, when

Narrative of *Count Griffenfeld's* confinement.

(1) See the *Vignette* to this Chapter.

war was desired by the Crown. Two days after he was liberated, he died in *Trönÿem*. They shewed to us the room in which he was confined. The wainscot is covered with inscriptions, written with an iron nail, in *Greek*, *Latin*, and other languages; the Count being denied the use of pen and ink. They are now either almost effaced, or otherwise rendered illegible, by the idle folly of visitants, who have thought proper to inscribe their own names among them. The original floor was marked by his footsteps, as he always observed one line in walking across his chamber, when he exercised himself. This floor had been lately removed, and a new one added instead of it; much to the discontent of many of the inhabitants. The change, however, as a measure of policy, was thought necessary; since nothing so much excites the feelings of men devoted to liberty, as the marks which tyranny is indiscreet enough to leave of the sufferings of its victims. It is said that the King came to *Munkholm* to see him in his confinement; and ordered his door to be opened, that he might view him as he paced within his chamber; but the Count, having some suspicion of what was intended, concealed himself behind the door. Leaving this chamber, we afterwards found, upon one side of this little island, a small bower, con-

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structed, for the most part, of green intertwisted boughs. The prisoners had amused themselves in making it. Within the bower were various inscriptions, which they had left at different times. One of them, upon a plain tablet suspended over the entrance, struck us very forcibly: it was in the *Danish* language:

"Memorial of a Broken Heart!"

Custom-House.

XVII. THE CUSTOM-HOUSE, with the *Guard-House*, &c.

Townhall.

XVIII. THE TOWN-HALL.

Other Public Works.

Besides these, which have been here enumerated, there are many public and private warehouses, and sixteen or seventeen repositories for fire-engines in different parts of the city. The most remarkable thing is, that all these buildings, with the exception of the *Cathedral*, are of wood. "Every time," says *Von Buch*[1], "we proceed through the streets of *Trönijem*, we are struck with the beauty of the town; and yet it is altogether built of wood. But the wooden houses have an uncommonly agreeable appearance here; as in every one we see the endeavours of the possessor to ornament the exterior as much as possible; and the endeavour is

(1) Travels, p. 3. *Lond.* 1813.

frequently successful; for the delicacy of feeling and taste of the inhabitants is not confined to their mode of living, but extends to every thing around them." The streets are wide and well paved; although not lighted. The houses are handsome, regular, large, and airy; with pleasant gardens, full of fruit and flowers; laid out, it is true, somewhat after the *Dutch* taste; but some of them contain fine thriving *oaks* and *lime-trees*, that disdain to submit to the stiff grotesque arrangement of a *Dutchman*'s garden. The productions of these gardens are worthy of note in such a *northern* latitude, and they were partly mentioned before;—apples, pears, plums, cherries[2], strawberries, cabbages, cauliflowers, turnips, cucumbers, potatoes, artichokes, lupins, stocks, carnations, pinks, roses, and many other garden-flowers. They had this year the finest and most serene autumn we had ever experienced. The town is admirably supplied with water: it has no less than ten public conduits. At the same time, it must be confessed that

(2) *Von Buch* was greatly misinformed as to the vegetable productions of *Trönjem*. He says, "The oak does not grow easily;" and that "neither cherries, plums, nor pears, ripen here." (See *Travels*, p. 117.) 'Strawberries were gathered, in the year of our arrival, as early as *June* 20th, which is as early as they have them in *Christiania*: generally, the time of their first ripening is about *June* 27th.'

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Trönjem is not a place for strangers to reside in with economy. Every thing is very dear, and many necessary articles sell at higher prices even than in *England*. Bread bears a high price; also meat, butter, cloth, leather, horses, &c.

The regulation of the town is vested in the hands of twelve persons, elected out of the body of the merchants. When letters upon public affairs are sent to the inhabitants, they are addressed "*To the Honourable Twelve.*"

Courts of Justice.

'With regard to the Courts of Justice, we heard that in the smaller Courts, that is to say, in the *Balliages*, all cases are referred to the decision of a Jury, consisting only of four persons. There is a High Court of Appeal, which has no Jury, but consists only of one Judge and two Assessors. Here the High Bailiff, or Governor, has no voice. The Juries in the smaller Courts have a right to record their sentence; and when any difference occurs between the Judge and the Jury, the parties, if they please, may abide by the sentence of the Jury; except in criminal cases, when, upon such difference occurring, the affair must be referred to the High Court of Judicature. Formerly, the Juries consisted of eight persons. 'The Grand Bailiff, or Governor, of *Trönjem* is called *Stiftamtman:* and the inferior Bailiffs, *Amtmänner:*

hese there are four. Subordinate to the *sanner*, there are three or four Underwriters, rding to the extent of the Division; who the Judges, and before whom all causes , in the first instance. In criminal cases, Jury consists of four persons; but at any when the criminal is not contented with entence, the case may be referred to the rior Court; and this is done in all cases e the punishment exceeds two months' isonment. Every sentence must be con- d by the Superior Court; although the , when the parties are satisfied with the nce, be not pleaded a second time.' Ca- punishments are extremely rare: an instance e execution of a criminal had not occurred e once in ten years.

Education of the Lower Orders.

a proof of the excellent manner in which education of the common people is con- ed, it is enough to state, that 'they are all to read, and most of them to write. In y parish there are two or three School- ers, according to its size, selected, by the yman, from the most learned of the pea- , and confirmed by the Bishop. The farmers the Gazettes, and converse freely upon ical subjects. They are at present con- d; which was not quite the case at the

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commencement of the *French* Revolution. One of the most powerful reasons of the present prosperity of the country is, that the people now depend less upon fishing than formerly, and more upon the produce of the earth. In *Norland* there is still little or no cultivation; and the people consequently forsake the interior of the country, and flock to the shores, during the fishing season. There are some but not many ragged people in the streets. Upon the ramparts we always saw slaves working in chains, who were in general wretchedly clothed. They are condemned to this species of slavery according to their crimes; some for a certain number of years, and others for life. Horse-stealing is punished with slavery for life. For lesser thefts, it is seldom until after the second or third offence that they are condemned to work upon the ramparts. Persons who have deserted three or four times receive this species of punishment.'

Fair.

We were present at the Fair, which begins on the first of *October*. Many of the *Lapps* come down from the mountains, and visit the city, upon this occasion: the Bay is seen covered with innumerable white sails of boats, bringing in the peasants from all parts of the country. During the course of the three days upon which

the fair continues, some of the shops engaged in the sale of handkerchiefs, linen cloth, and a few other trifling articles, sell goods to the amount of five thousand dollars, a sum equal to one thousand pounds sterling of *English* money. Great numbers of the peasants, also, (who have not the smallest resemblance or relationship to the *Lapps*, and hold them in the utmost contempt and aversion,) arrive on horseback from the most distant villages and farms; galloping through the streets, at full speed, upon the most beautiful steeds, unshod, without either saddle or bridle, which they guide with a cord fastened to a piece of wood, as a bit. In the evenings, during the fair, there is, as may be expected, a good deal of drinking, dancing, and some fighting; but no lives are lost in these broils. They dance the *Polsk* and the *Halling*, which we have before described. When intoxicated, a *Lapp* has been known to pass an entire night in the streets of *Trönÿem*, during the utmost rigour of winter, sleeping in the open air, without receiving any injury. It is true, they are well wrapped in furs; but perhaps this hardiness may be attributed to their habit of constantly exposing their bodies, reeking from their steam-baths and sudatories, to extremes of temperature, rolling about naked in

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the ice and snow. We have seen them, in *Lapland*, when the dews were falling copiously during the last nights of summer, issue from their hot baths, and squat down stark-naked upon the wet grass, to enjoy the luxury of cooling themselves in this manner in the open air. In *Trönÿem*, this people are not called *Lapps*, but *Finns*. The attachment they bear towards their savage mode of life upon the mountains, and the difficulty of civilizing them, are very remarkable: so universally applicable is that affecting sentiment of *Euripides*, to the inhabitants of all countries, "*Home's home, be it never so homely*[1]." An anecdote or two of the *Finns* near *Trönÿem*, as given to us by an intelligent young man of the name of *Horneman*, with whom we contracted a friendship during our residence here, and to whom we were indebted for many acts of polite attention, will set this part of their character in a very striking point of view.

Anecdotes of Two *Finn-Lapps*.

Mr. *Horneman*'s father, a wealthy merchant of *Trönÿem*, educated a poor *Finnish* boy, treating

(1) Any person might believe that the antient *English* aphorism, above cited, was derived from the *Greek* Tragedian. The original passage is,

——ἀνδρὶ γάρ του, κἂν ὑπερβάλλῃ κακοῖς,
Οὐκ ἔστι τοῦ θρίψαντος ἥδιον πάτρα.
Euripidis Fragmenta Phœn. iii. 2. tom. 2. p. 466. Ed. *Beckii*.

him always with the greatest benevolence, and finally taking him into his own family as a servant; where he was clothed in a fine livery, and remained faithful in the discharge of all his duties during twelve years. At the expiration of this time, a large party of *Finns* came accidentally, from the *northern* mountains, into *Trönijem*, for purposes of trade. Upon hearing this, the boy stole privately to his apartment, pulled off his fine clothes, putting on a few old rags, and, leaving all that he possessed, decamped with his countrymen, without carrying off a single stiver, either of his own or of his master's money. Some years elapsed, and no intelligence was gained even of the route he had taken. At last, wrapped in his *Finnish* garb, he came to visit his old master; and being asked why he had deserted his service in such an abrupt and clandestine manner, "*Sir!*" said he, "*what will you have? Finn is Finn!*"

Another circumstance, of a similar nature, occurred a few years ago. A *Finn* boy was educated at the *Latin School;* and in process of time, being ordained by the Bishop, he became an officiating Clergyman in one of the parishes of *Trönijem;* but he was so passionately addicted to spirituous liquors, that it became necessary not only to dismiss him from his sacred office,

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but finally to excommunicate him from the church. Upon this he left *Trönijem*, and returned to his native mountains, where he joined with a party of the wild *Finns* of the country, resuming at once all the habits of his original state: and at this time he was roaming the savage mountains and deserts of *Finmark*.

Military Force of the Government.

'There are two regiments of infantry in the government of *Trönijem*, and one of cavalry, each consisting of eighteen companies of one hundred and twenty men. These are a part of the national army, and are embodied and exercised for a certain number of days every year. Two companies of the regiments of infantry are kept constantly embodied; and the men who form these companies are regularly enlisted; but no person is obliged to serve in them, who is unwilling to do so: it is even unlawful to enlist into them the sons of farmers. The regiment of cavalry has no part of it constantly embodied: but both the men and horses are said to be nearly as well disciplined as the most regular troops. The men have a constant allowance for maintaining their horses, which is however trifling; not more than fifty dollars a year. Besides these three regiments, there is a smaller regiment of *chasseurs*, consisting of about a thousand; this is always stationary at *Trönijem*.'

There is also another *corps*, which may be considered among the greatest curiosities in the country; namely, the regiment of *Skiders* or *Skaters;* consisting of six hundred men, half of which are stationed in the *north*, and half in the *south* of *Norway*. These men have acquired the art of performing military evolutions in the *Lapland skates*. We saw their Colonel: he was upwards of fifty years of age; but he conducted himself in these *skates* with all the surprising dexterity of the youngest soldier in his regiment. He explained to us the manner of using them. The *skates* themselves are not of equal length: in every pair of them, one is longer than the other. 'The *long skate*, which is generally six or seven, and sometimes eight feet long, is always worn on the left leg; and upon this leg the *skater* chiefly rests. The *short skate*, which is generally one or two feet shorter than the other, is worn upon the right leg, and serves principally for pushing the other forwards, and directing it. For this purpose, the *short skate* is covered with rein-deer skin; the hair of which lies smooth while the *skater* is progressive, but bristles up, and becomes rough, upon any retrograde motion, and therefore serves as a hold upon the snow. The bottom of the *long skate* is of smooth wood, having a groove hollowed

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within the surface, to make it lighter, and to assist the spring of the *skater*, who sometimes, in going very rapidly down hill, must take great leaps over the rocky and rough ground that may be above the snow. A leap of fifteen yards is sometimes taken, in this manner. A stick flattened at one end, to prevent its sinking in the snow, is always held by the *skater* in his hands, as a director; and his position in going down hill is always with his knees very much bent, his body leaning forwards, and bearing with his two hands upon the stick on the left side; dragging it after him, and at the same time supporting himself by it[1]. In this manner they descend the steep hills of *Norway*, with a velocity, as we were often assured, swifter than any bird can fly. The *regiment* of *Skïders* is regularly exercised in the use of these *skates*, every year.'

Manners of the Inhabitants.

A tolerable notion of the manners of a people may be formed by mixing with them at their meals. We were every day in company with some of the principal families resident in the place; and we everywhere observed the same traits of antient hospitality, softened by the

(1) See a correct Portrait of one of the *Laplanders* using these skates. *Schefferi Lapponia*, cap. 20. p. 248. *Francof.* 1673.

most engaging manners. The society of *Trönÿem* has been considered as more polished than that of any other town in *Norway:* we did not consider it as superior in this respect to *Christiania,* but it is certainly not inferior. Some trifling singularities, as national characteristics, may be noticed; serving to cast an air of novelty over the good fare a traveller is sure to meet with. The people of *Trönÿem* place themselves without *etiquette* at table: every one sits as he chooses. They continue long at their meals; but conversation is brisk among them; and as they do not remain at table afterwards, the party breaks up sooner than in *England:* and the constant presence of females renders their social meetings cheerful and agreeable. Indeed, at all of them, the *Norwegian* dames perform their parts extremely well, and generally take the lead in conversation, in a manner which is highly pleasing to all the company. Their dinners are of a very substantial nature, although not served without elegance: the tables may be literally said to "groan with the weight of the feast;" like what it used to be in old times in *England.* Even at their suppers, three or four courses of *soup, fowls, ham, fish,* &c. &c. follow one another; after which the stranger beholds, to his astonishment, a quarter of a calf brought

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in, by way of a *bonne bouche*, at the last. 'At the end of their dinners, perhaps by some sign from the mistress of the house, the company all bow to her, drink her health, and then, suddenly rising, push their chairs, with a very great noise, to the sides of the room. Then they stand silent for a short time, as if they were saying a grace: after which, bowing to the master of the house, and to each other, they shake hands with their host, and kiss the hand of their hostess, when the ladies are assisted out of the room by the arms of the gentlemen. We had observed this ceremony, of rising and moving the chairs, before in *Denmark;* but the whole process here was more intense, and the noise might call to mind the rising of the great Council in *Milton*.' As soon as they have all retired together, coffee is served; during which some gentlemen smoke tobacco, for a few minutes, in an adjoining room. After coffee, tea is brought in: then the card-tables are set out, at which punch is served; and afterwards a most solid supper is announced, as before described. The house of General *Von Krog*, the Commandant, was one of those at which we were thus hospitably entertained. Although built of wood, it was the most magnificent palace in all *Scandinavia:* it contained a theatre, and a most stately suite of apartments.

Entertainments.

The General gives grand entertainments to the inhabitants, in this palace; they consist of plays, followed by magnificent suppers: the parts in the dramas are performed by the ladies and gentlemen of the city. When the son of the *Duke of Orléans* visited *Trönÿem*, he was lodged, with his whole suite, in this palace. The house of Count *Schmidt* is also worthy of notice; and the houses of the lowest merchants are furnished with a degree of neatness and elegance very striking to a traveller in this *Hyperborean* corner of *Europe:* in this respect, *Trönÿem* does not yield to *Copenhagen*. The women are handsome; and the dress of the lower order of females is very neat. They wear a jacket, with a shining black apron over their petticoat; and a turban-handkerchief about the head, beneath which appears a clean laced mob, tied under the chin. The dress of the gentlemen is, in every respect, the same as in *England*.

General *Von Krog* has built a very noble country-seat, and laid out considerable sums in its improvement. His territory extends to the source of the *Nid*, in the *Alps*. The *Nid* flows from *Tÿdalen*, which is on the Alpine barrier between *Sweden* and *Norway:* it then proceeds two *Norway* miles, by the side of the *Selhoe* Sea or Lake, and runs to *Trönÿem*, surrounding it on

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(1) A *Norway* mile is longer than the *Danish* mile: it equals nearly 6¾ *English*.

(2) One *aln*, or *ell*, is 24 *Danish* inches; equal to 24.7 *English* inches.

Ejendal in *Herjeådalen*. To bring the comparison nearer home, they are inferior, in point of picturesque beauty, to the Fall of *Fyers* in *Scotland*, and to the principal fall of the *Clyde*, in the same country.

The country-seat of Mr. *Mingay* is also one of the mansions which is particularly distinguished for the hospitality displayed by its worthy owner. This gentleman's name must not be mentioned without the most grateful acknowledgments on our part, for the attentions we received from him. He receives company, during the summer, every Saturday, at his elegant villa, without invitation; and the same, during winter, at his house in town. We accompanied Mr. *Mingay*, to spend one evening with him at his country-seat. Its situation was such as *Rousseau* might have chosen for the place of his residence. It stood at the foot of a range of mountains, close to the Bay, with sloping gardens full of trees and flowers. Here we found, yet hanging upon the boughs, *Hæg berries* (Prunus padus), *cherries*, *apples*, *plums*, and *pears*. In his garden were also *roses*, *carnations*, *stocks*, and *lupins*, in full flower, although now the beginning of *October*. At supper, the table was very elegantly prepared with fruit, the produce of this garden. Having mentioned the kindness

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we experienced from these gentlemen, we must also add to the list of our *Trönÿem* friends, the names of *Nelson, Knudson, Due, Williamson, Friedlieb*, who, with many others, endeavoured to make our short residence in this delightful place as agreeable as it was possible. "No traveller," says an author before cited[1], "returns from *Trönÿem* without feeling a sort of enthusiasm for the reception he there met with. From this number I must certainly not be excluded; for who could be insensible to repeated acts of the most hearty kindness; to a politeness that anticipates every want; that is always affecting, and never oppressive? Who would not be filled with gratitude at seeing so many worthy men anxiously labouring to make the time you spend in *Trönÿem* a time of gladness? This warmth of heart, this conviviality and sympathy, appear to be characteristic of the inhabitants of this town. They are, in fact, by no means foreign to the character of the whole nation; and are here displayed, as we might expect to find them among men of higher refinement and cultivation." Of all the nations to whom the *British* character is known, the *Norwegians* are

(1) See *Von Buch*'s Travels, p. 108. *Lond.* 1813.

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Friendship of the *Norwegians* towards the *English*.

the most sincerely attached to the inhabitants of our island. "The welfare of *Great Britain*" was a toast which resounded in every company, and was never given but with reiterated cheers and the most heartfelt transports. Every *Englishman* was considered by the *Norwegians* as a brother: they partook even of our prejudices, and participated in all our triumphs. Whenever the Gazettes contained intelligence of a victory gained by the *English*, the glad tidings were hailed and echoed from one end of the country to the other; but especially in *Trönyem*. They sang "*Rule Britannia*," in every company. Their houses were furnished with *English* engravings, and *English* newspapers were lying upon their tables. The *Norwegians* would have fought for *England*, as for their native land; and there was nothing which an *Englishman*, as a sincere lover of his country, might more earnestly have wished for, than to see *Norway* allied to *Britain*[2]. Yet their national prejudices

(2) Under these circumstances, that any measure of policy should have been deemed a sufficient plea for delivering this brave people, bound hand and foot, to become the subjects of a nation much their inferior in their own estimation, and with whom it is almost impossible, considering the feelings with which the *Norwegians* and *Swedes* regard each other, that any alliance can be long maintained, is deeply to be lamented. A feeling of national honour should have induced *Great Britain*, whatever it might have cost her, to maintain the independence, rather than the subjection, of *Norway*. Old *Dovre*'s echoes, at this instant, are resounding the sentiments

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are strong: they entertain a certain degree of contempt towards the *Swedes*, and hold the *Danes* in utter aversion. Whenever *Sweden* became a subject of conversation, at this time, it was the prevailing opinion that its Government was going to ruin; because every thing belonging to it was said to be in an unsettled state. A thing prohibited one day was permitted on the next; and a general want of stability characterized all the measures of the young king, *Gustavus*. The *Swedes* are more industrious than the *Norwegians*; but the country is so poor, that little can be effected by industry. The population, too, is very small. The province of *Dalecarlia* is better peopled than any other, but it is not equal to the support of its inhabitants. The consequence of this is, that the *Dalecarlians* migrate in search of employment, and are found scattered almost all over *Sweden*. *Gustavus* had made every effort, but in vain, to restore the exchange to its due level.

National Prejudices.

With regard to the *Danes*, the sort of feeling in which they are held by the *Norwegians* may be shewn by expressions similar to those applied

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sentiments of freedom, which burst forth from one end of the country to the other:

"Dög vaagne vi vel op engang,
Og bryde Lanker, Baand og Twang!"

by the *Swedes* to the same people, and commonly used in *Trönÿem;* such as, "A true *Danish* trick!"—"Nobody but a *Dane* would have done this!"—"If a *Dane* travel to *Vienna*, and back to *Copenhagen*, he fancies himself the wisest man in the world:"—and many of the like satirical sayings. There are other sayings, in this part of *Norway*, somewhat characteristic of the country and its inhabitants. When a lady is pregnant, they address her with this friendly salutation, "*God resa til Rörråås!*—a good journey to *Rörråås!*" which cannot be explained without knowing that the road to *Rörråås*, having been always difficult, and exposing the traveller to disastrous accidents, was formerly considered as a dangerous expedition for the inhabitants. Another saying, which is heard north of *Trönÿem*, is remarkable for the circumstances of reciprocity it involves between the people of two different and distant countries: it is an expression of anger: "*Go to Blocksberg!*" by which is meant, *Go to the devil!* the peasants maintaining that the devil dances every night with the witches upon *Blocksberg*, a mountain in *Germany*. Mr. *Horneman*, of *Trönÿem*, had the curiosity, when he was in *Germany*, to visit *Blocksberg;* having so often heard the expression in his own country: to his great surprise,

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he found that the *German* peasants, by a reciprocal expression, say, "*Go to Hekkelfield!*" which is a mountain in *Norway:* and when he asked them if the witches danced on *Blocksberg*, they replied, "No, not on *Blocksberg*; but they dance furiously on *Hekkelfield.*"

Lake *Törgvillan.*

A little to the north of *Trönÿem* is the Lake *Törgvillan*, described by the inhabitants as exhibiting the most beautiful prospects that can be imagined. Its islands are so numerous, that the peasants say it has as many as there are days in the year. These islands, besides its numerous peninsulas, are covered with trees. Some of the finest and most cultivated parts of *Norway* lie to the north of *Trönÿem:* we were assured that cottages and cultivated land occur in the whole distance from *Trönÿem* to *North Cape.* This journey was undertaken by *Von Buch*, who has published a very interesting account of it[1]. In winter, it must be performed in sledges: in summer, on horseback, and occasionally in boats. The Post is conveyed, by this route, four times in each year. The *Duke de Chartres*, son of the *Duke of Orléans*, followed the same route, during his travels in the north

Route to *North Cape.*

(1) See his Journey from *Trönÿem* to *Alten*, as published in the Sixth Chapter of his Travels, p. 116. *Lond.* 1813.

of *Scandinavia;* which verifies the accounts we heard of him in *Lapland.* He came to *Trönijem* with a *French* Count, of the name of *Montjoye*[2].

(2) The subsequent fate of *Montjoye* has been related by Dr. *Adam Neale*, in the interesting volume now published of his "*Travels through Germany, Poland, Moldavia, and Turkey.*"—"This accomplished man," says Dr. *Neale*, "whose real name, I have since learned, was *Montjoye*, passed himself upon the *British* Government as the *German* Count *Froberg*, and under that title had the address to procure himself the appointment of Colonel to a regiment, which he was to raise in the *Albanian* and *Christian* provinces of *Turkey*. For this purpose he had employed crimps at *Venice, Trieste, Galatz*, and various places near the *Turkish* frontier; while he himself resided at *Constantinople*, and directed their manœuvres. The most unprincipled deceit and falsehood were employed to obtain recruits; many of whom were sent to him at *Constantinople*, then transferred to the *Prince's Islands*, and from time to time forwarded to their head-quarters at *Malta*. Finding themselves deceived, the regiment mutinied, murdered some of their officers, and blew up one of the *Maltese* forts. A court-martial was assembled afterwards at *Sicily*, by Sir *John Moore*, to investigate the grievances complained of by the survivors: when it appeared, in evidence, that most of the privates were young men of good families in their own country, who had been enticed to enter as ensigns and captains, and, on arriving at *Malta*, had been forced to do duty as privates. Sir *John Moore* disbanded the regiment, and sent back the men to their own country. Count *Froberg* was then at the *Russian* head-quarters; and finding his conduct detected, and being indebted 30,000*l.* to Government, he detected to the *French*; but being afterwards surrounded, in a village, by a troop of *Cossacks*, he placed his back to a wall, and, sword in hand, sold his life as dearly as he could, being literally cut to pieces. This singular man had visited every country in *Europe*, from *Gibraltar* to the banks of the *Frozen Ocean*, whither he had accompanied the present Duke of *Orléans*, and had traversed all *North America*. He had an extraordinary facility in acquiring languages, speaking, with the utmost fluency, *Italian, Spanish, Portuguese, English, German, French, Latin*, and *Sclavonian*. His amiable manners, and his talents for conversation, his perfect good-breeding and delicacy of *tact*, rendered him a welcome guest at all the diplomatic tables of *Pera*. It is not without much surprise, mingled with deep regret, that his acquaintances were apprised of the fate which occasioned so dreadful a termination of his career."

Neale's Travels, p. 233, 234. *Lond.* 1818.

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The Prince took the name of *Möller*, from *Switzerland*, and the Count that of *Froberg*. When they arrived afterwards in *Stockholm*, they made themselves known to the inhabitants of *Trönÿem* by writing to the General-Commandant, and acknowledging their rank. It was then recollected, that when the young prince was at *Trönÿem*, a warm partisan of the *French* republicans had said to him one evening at supper, "*Can there be a greater miscreant than the Duke of Orléans?*" and, receiving no answer, also added, "*Do you not think him a rascal?*" It may be so, said the Prince, in a tremulous tone of voice; which was noticed by all present; and they observed that he sighed deeply; but, until his real name was known, the cause remained a mystery.

We shall now add a few desultory remarks, made from our Notes, without attending to any other order in their arrangement than that in which they occur. The vessels most used by the coasters have a large square sail, in the management of which they are very skilful; and sometimes, when freighted with fish, piled half-mast high, they will venture not only to *North Cape*, but to the more distant shores of *Scotland*, and almost to *Iceland*. For large vessels, the situation of *Trönÿem* is not so good

as coul be wished: the fleets of all *Europe* might ride safely within its bay; but the entrance to it is difficult, and, flourishing as the state of the city is at present, this circumstance has always proved a check to its increasing opulence. Of all the towns we had ever seen, we were disposed to consider it as the most beautiful, both as to its situation and internal aspect. Few cities may boast such a noble street as the *Monkgade*, which runs through the whole breadth of the town to the shores of the *Fiord*, with good buildings on either side. But all the bright perspective beyond, with the varying hues, the lights and shadows upon the island, the bay, and the distant mountains that terminate the view, are such as cannot be seen elsewhere. *Von Buch* says of this prospect[1], "We should scarcely credit a drawing, however faithfully it might represent Nature; but no drawing could convey the perpetual fluctuations of light on the works and towers of the island, and the deep ground which disappears in the blue ethereal mountains, the tops of which are illumined by snow." The view of the bay and town together, in descending towards them from

Prospects.

(1) Travels, p. 113. *Lond.* 1813.

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Steenberg, the mountain to the west of *Trönijem*, is certainly one of the finest known; and so diversified and magnificent are the other views in and about the city, that it is scarcely possible to take a step without some new object of regard. We shall briefly notice the most beautiful of these prospects; but there are many others with which travellers who visit the place will be delighted.

1. The view from *Steenberg*, the mountain to the west of *Trönijem*.
2. Ditto from *Christiansteen*.
2. Ditto from *Munkholm*; in which point of view the city bears great resemblance to *Naples*.
4. View of *Munkholm*, with part of the Bay, backed by distant mountains, from the *north* street, leading from the Market-square.
5. Ditto from the Church of *Nôtre Dame*, of the Market-square, with the Hospital-Church beyond, and the lofty mountain on that side, rising high above the town.
6. Ditto of *Munkholm*, the bay, and the town, from Mr. *Mingay*'s villa, at the foot of the aforesaid mountain.
7. Ditto of *Christiansteen* from the town, and

the cultivated land below it, which, as seen from the Market-square, exhibits its fine harvests above all the ships in the river, and above the buildings in the city.

ng the last winter, they had very little r, except upon the heights; and this was d of as a calamity; the want of snow being rious a privation to the inhabitants as the re of their crops. In winter, which is the on of business, all commercial intercourse the town is carried on by means of sledges, the farmers expect the fall of snow as a l and important event. The nights, during er, are so clear, owing to the cloudless state e atmosphere, the astonishing brilliancy of *Aurora Borealis*, and the light reflected by now, that, when there is no light from the n, they can yet see to read in the open air. ummer, the heat is very great: "It is not warm," says *Pontoppidan*[1], "but sometimes ch a degree, that, according to the vulgar e, *it may make a raven gape;* and persons have been born and educated in hot

(1) Natural Hist. of *Norway*, p. 20. *Lond.* 1755.

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climates, might fancy themselves suddenly transported home." 'We heard, from an officer who lived thirteen miles northward of *Trönÿem*, that the sun may be seen, annually, during two or three nights following, the whole twenty-four hours above the horizon. The situation where he saw it was at a considerable farm in a valley near the top of some high mountains: the country below is sometimes quite green, when the grounds of this farm are covered with deep snow.' In visiting the farm-houses of this country, and observing the manners of the peasants, there is, perhaps, nothing that will strike a traveller more than their marvellous ingenuity in carving of vessels and articles of household furniture with their knives. Their knife-handles are sometimes beautifully inlaid and ornamented with different-coloured wood. Mr. *Horneman* presented to Mr. *Cripps* a knife thus ornamented by a *Norwegian* peasant: it had all the letters of his name inlaid in the handle, with pieces of coloured wood. But they are so skilful with their knives, that they will cut out bowls and cups as if they had been turned; and manufacture the most elegant utensils of all sizes, from a cabinet to a snuff-box, without using any other instrument. The old *Runic Staves* found among the peasants in this neighbourhood,

Skill of the Natives in carving Wood.

some of which are elaborately carved, are made only with the knife. The carriages, in general use for travelling, are very old-fashioned: they resemble a sedan-chair, which is placed on two wheels, and made open in front. Glass is exceedingly dear in *Trönÿem;* but there are few towns with more windows in proportion to their size, and they are generally sashed. In the year 1791, in the month of *June,* after heavy rains, the water, which had been dammed up to serve some mills upon the side towards *Steenberg,* became swoln, suddenly burst its embankment, and instantly swept away several houses, by which accident many lives were lost.

Having such a valuable work upon *Norway,* and in our own language, as that of *Erich Pontoppidan*[1], many remarks that might otherwise have been inserted respecting the *natural history* of the country will be omitted; as it is not the author's wish that any reader should be at the pains of perusing, in the account of these Travels, what others have already described. Among the animals, however, which carry desolation among the flocks and herds of the *Norwegian* farmers, there are some of a nature so

Wild Animals.

(1) See the Natural History of *Norway.* *Lond.* 1755.

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remarkable, that, when we first heard of them, we could scarcely credit the fact of their existence so far to the *northward* of those latitudes in which the larger animals of the *feline* tribe naturally roam. These are, the three different kinds of *Lynx* which infest the *northern* forests of *Norway*, called *Goube* by the common people; the *wolf-goube*, the *fox-goube*, and the *cat-goube*. They are all three of them extremely rare: their skins, when taken, sell upon the spot for twenty-five or thirty *dollars;* and after being exported to *Hamburgh*, they are sold at much higher prices. Two of these animals, of the kind called *cat-goube*, were taken a short time before our arrival. We saw a drawing of one of them: the animal, from this representation, exactly resembled a *tiger:* it had a grey skin, beautifully variegated with black spots. They were both sent to *Christiania*, alive, there to be shipped for *England*, and, as it was said, for Sir *Joseph Banks*. They are much more destructive among cattle than either the *bear* or the *wolf*. A single *cat-goube* will destroy twenty cows in one night. The *cat-goube* has the finest and most valuable skin, but it is not so large as the *wolf-goube*. Their worst enemy is the *wild-cat*, an animal very like themselves. Although of smaller size, its almost continual employment is

to look out for them in their holes, and steal their prey from them. The farmers know very well when a *goube* has been among their cattle; not only from the number of the cattle destroyed, but from the delicacy shewn by the animal in the choice of its food: as from a *sheep*, or a *goat*, it will only take the udder, and a part of the head; and from *cows*, the blood only; which is the cause why so many *cows* are found dead, whenever the *goube* has attacked them.

Horticulture.

All sorts of garden vegetables are common in the neighbourhood of *Trönÿem*. The towns and cities of *Norway* were formerly supplied with culinary herbs from *England* and *Holland;* but this supply ceased to be necessary, when gardening grew into vogue among the inhabitants. *Pontoppidan* says[1], but this change was partly owing to a very useful little treatise, entitled the *Norway Horticulture*, published at *Trönÿem* by *Christian Gartner*. The farmers in the neighbourhood were, at the time of our visit, very loud in their praises of a kind of *turnip*, called *Kale Raby;* which either has not yet been introduced into *England*, or, having been introduced, has not succeeded, owing perhaps to its not

(1) Natural History of *Norway*, Part I. p. 113. *Lond.* 1755.

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being properly cultivated. Our friend Mr. *Williamson* presented us with the seed of it, and brought a fine specimen of the living plant to shew to us. He considered it as a most important acquisition for the agriculturist. This kind of *turnip*, which is not the *Swedish* turnip, is of a yellow colour. It is very much cultivated by the *Norway* farmers, and has an agreeable refreshing flavour, even when it is eaten raw. The root grows to a very large size; but the most profitable part of it is derived from the green leaves, which resemble those of a cabbage; these are used as fodder for the cattle. By cutting off only the outer leaves, and taking care not to injure the heart, they are made to sprout again, and supply an abundant crop. Cattle are remarkably fond of them, either green or dried. The *Kale Raby*, or *Cabbage Turnip*, endures the frosty nights of the *Norwegian* harvest, better than potatoes. Mr. *Williamson*, who had brought this plant to great perfection, gave us the following instructions as to the proper method of sowing and transplanting it. The seed should be sown in the spring, in good garden soil: one ounce of seed will be sufficient for a bed of twenty yards length. The young plants are to be transplanted in *June*, into a good, but not a rich soil, without adding any

Kale Raby.

manure; four plants being set in every square of three feet. A plot of ground, thirty-five *English* yards square, will yield, in good years, thirty *Norway* tons, or twenty *English* quarters of these turnips. The *Kale Raby* affords a delicious vegetable, when boiled for the table.

Longevity of the *Norwegians.*

The permanent health and longevity of the *Norwegians* have long rendered proverbial the salubrity of the country and its climate. Judging from the healthy appearance of the inhabitants of *Trönÿem,* and the numerous instances that have occurred of persons attaining an age far beyond the usual period allotted to human life, it would appear that sickness is rare among them. This is the more remarkable, as they are much addicted to the use of spirituous liquors, but especially to *punch,* which the celebrated Dr. *Cheyne,* of *Bath,* considered as a dangerous poison[1]. They even maintain that the preservation of their health is owing to their frequent use of this beverage. In medicine, they make much use of the *Lichen Islandicus,* which is found upon all their mountains.

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(1) "It is likest *opium,* both in its nature and in the manner of its operation, and nearest *arsenick* in its deleterious and poisonous qualities: and so I leave it to them, who, knowing this, will yet drink on and die." *Essay of Health and Long Life, by* George Cheyne, *M.D. F.R.S. p.* 59. *Lond.* 1725.

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But their favourite physic is *camphor;* and this they seem to consider as a panacéa; administering it in all disorders. According to their own account of its healing properties, they find it most effectual in curing colds. The instances mentioned of longevity are sometimes such as to exceed all belief; such as that of the Bishop of *Havanger*, mentioned by *Ramus*, who, about the middle of the fifteenth century, died at the age of 202. But there are instances more certain. *Adrian Rother*, seventy years Alderman of *Trönÿem*, died about the beginning of the seventeenth century, aged 120. This is mentioned by *Mittzovius*. There was also a Clergyman in the diocese of *Trönÿem*, mentioned by *Ramus*, who lived to be 150 years old, being blind thirty years. His successor lived also to an uncommon old age. But almost all the instances of great longevity in *Norway* refer to the inhabitants of this town and neighbourhood. *Hans Aasen*, who first erected copperworks at *Röråås*, died at the age of 116. Persons curious to examine other instances of the like nature will find many more of them enumerated by *Pontoppidan*[1]. The whole district

(1) Natural History of *Norway*, Part II. p. 256. *Lond.* 1755.

of *Aggerhuus*, especially *Gulbrandsdale*, is remarkable for the long lives of its inhabitants. It is related by *Pontoppidan*, from indisputable authority, that in the year 1733, when *Christian* VI. and *Queen Sophia Magdalena*, of *Denmark*, visited their *Norwegian* dominions, they were present at what is called "*a Jubilee wedding*." This was performed in a garden at *Fredericshald*, under tents pitched for the purpose. There were four couples married, being country-people invited from the adjacent parts; and out of all these there were none under a hundred years old; so that all their ages put together made upwards of eight hundred years Their names were, *Ole Torresen Sologsteen*, who lived eight years afterwards, and his wife *Helje* ten years; *Jem Oer*, who lived six years after, and his wife *Inger*, who lived seven years; *Ole Besseber* and his wife; and *Hans Torlasken*, who lived ten years after, and brought with him *Jeran Gallen*, who was not his wife, but being a hundred years old, he borrowed her for this ceremony: she also lived ten years afterwards. These eight married people, being each upwards of a hundred years old, made themselves extremely merry at this Jubilee wedding; and the women, according to the custom of the country, danced *with green wreaths on their heads*,

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which brides always wear on their wedding-day[1].

About this time there happened to arrive in *Trönÿem* a poor *French Emigrant*, of the name of *Latochnaye*. Wandering about *Sweden* and *Norway*, he contrived to pick up a livelihood, by begging subscriptions towards the publication of a narrative of his journey, which he said he should hereafter publish[2]. His temper, naturally bad, had been soured by events which had compelled him to a state of greater activity than was agreeable to his disposition; and to complete the whole, he had the misfortune to break his leg, in one of the northern provinces of *Sweden*. After this accident, he was removed to the house of a *Swedish* Clergyman, who most humanely and hospitably entertained him beneath his roof, until he was sufficiently recovered to continue his journey: and for this act of beneficence, the name of his host was never afterwards mentioned by him without the most sarcastic expressions of that *mauvaise humeur* by

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(1) ——— ἀλλ' ὅμως
Σὺ καταστέψας' ἐγώ νιν ἦγον ἐς γαμευμένην.
Euripid. Iphigen. in Aulid. v. 903.

(2) It has since been published, under the title of "*Promenade d'un Français en Suède et en Norvége, par De Latochnaye.*" 2 *tomes. Brunswick*, 1801.

which he was characterized, and even with ungrateful abuse. Having collected money from all the principal inabitants of *Trönÿem*, he also applied to us; and we readily added our names to his list of subscribers. We should never have mentioned this circumstance, if we had not afterwards found, when his work appeared, that the little kindness we had it in our power to shew him was requited by him with one of his usual manifestations of spleen. He had been asked to spend the day with us, and to join a party of friends whom we had invited to dinner. In the morning we hired a boat for his conveyance to the Isle of *Munkholm;* and accompanied him thither, that he might see the fortress. For his dinner we had reserved a haunch of the *Reindeer* venison we had bought of the *Laplanders*, near *Malmagen*, in our passage over the *Alpine* barrier. In the evening, we endeavoured to amuse him by the exhibition of every thing curious collected in our travels, and by communicating any information that we possessed, respecting the countries we had visited in common with him, for his own use. Nothing, however, could get the better of his habitual spleen, or mitigate, for a moment, the stings of his disappointed pride, excepting the haunch of *Reindeer* venison. Upon this, which he said was

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"the only good thing he had found in all *Scandinavia*," he broke forth in true *Gallic* raptures: and, as it may amuse the Reader to see how he has noticed our attentions in the account of his travels, and perhaps offer to the notice of *Englishmen* a characteristic trait of *French* gratitude, we shall conclude this Chapter by translating from the '*Promenade*' of Mons. *De Latocknaye* that passage of his work in which our interview with him is described; adding the original in a note[1]. It is annexed to his account of the Isle and Fortress of *Munkholm;* of which he says, "*Je ne connais pas de prison plus horrible;*" although, in his recollection of the jails and dungeons for State-prisoners in *France*, he might surely have called to mind many more terrible places of confinement. "I visited the spot," says he, "with two young *Englishmen*, who had

(1) "Je fus la visiter avec deux jeunes Anglais, qui venaient de faire une expédition vraiment *Anglaise* dans le Nord. Après avoir quitté Londres, ils avaient poussé tout d'un coup, et sans s'arrêter, jusqu'à vingt milles au nord de Torneô, et y avaient lancé un ballon dans la Laponie, au grand étonnement des natifs; les Lapons cependant y avaient paru moins sensibles, qu' à un cerf-volant qu'ils firent voler après. Ils avaient passé à Sundswall le même jour que moi; mais depuis ce temps, ils avaient fait unce tournée prodigieuse. Ils étaient chargés de pierres, de minéreaux, de mousses, de bâtons Runiques, de portraits et sacs de Lapons, de peaux et cornes de rennes, et, surtout, *d'un gigot succulent du même*, auquel, comme un Franc ignorant, j'attachai un beaucoup plus grand prix qu'à toutes leurs autres curiosités."—*Promenade d'un Français, &c.* tom. II. p. 136. *Brunswick*, 1801.

just completed an expedition, truly *English*, into the *North*. After having quitted *London*, they pushed on, all at once, without stopping, twenty miles to the north of *Torneå*, and launched a balloon in *Lapland*, to the great astonishment of the natives: yet the *Lapps* had been less touched by this exhibition, than by that of a paper-kite, which they let fly afterwards. They passed through *Sundswall* the same day that I did; but since that time they had made a prodigious circui.. They were laden with (*pierres*) fragments of rocks, minerals, mosses, *Runic* staves, *Lapland* purses and costumes, hides and horns of *Reindeer*, and, above all, with *a succulent haunch of the same animal*, to which I, like a poor simpleton, attached more value than to all their other curiosities."

Bridge between *Melhuus* and *Leir*.

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TRÖNÿEM TO CHRISTIANIA.

Departure from Trönÿem—*Mild Temperature of the Climate*—Guuldal—*Scenery between* Sognæs *and* Hoff—*Elevation of the Mountains*—*Gammel Orse*—*Upland Farms*—Sundset—*Sno-Ripa*—*Passage of* Dovrefield—Rüsen—*Moor Game*—Drivstuen—*Alpine Plants*—Kongsvold—*Grotesque Habits of the Natives*—*Boundary between the Governments of* Trönÿem *and* Aggerhuus—Sneehättan—Jerkin—Fogstuen—*Harebacken*—*Descent from* Dovrefield—*Geological Phænomena*—Tofte—*Marriage Customs*—*Perilous Assault*—Louven *River*—Formoe—*English Customs*—*Guldbrandsdale*—*Cataract and*

and Bridge—Pass of Kringelen—*Fatal Expedition of Colonel* Sinclair—*Cause of his disastrous march—History of the Inscription—Fate of the Prisoners*—Breiden—*Peculiar Character of a Norwegian Landscape*—Viig—Moen—*Beauty of the Forests*—Oden—*Tumuli*—Elstad—*Lake* Miösen—*Remarkable Chasm and Bridge*—Losnes—Stav—Moshuus—*Economy of the Natives*—*Deviation from the King's Road*—Sunde—Torsted—Louven *River—Difficulties of the Route*—Ronne—*Interior of a* Norwegian *Inn*—Svennes—*Extraordinary Adventure—Cow-house—Glass Manufactory*—Svee—*Appearance of the Harvest—Views of the* Miösen *Lake*—Hund—Brelie—*Cataract*—Lunden—*Glass-works of* Garsjoe—Bandelie—*Junction with the King's Road*—Roholt—*Iron Foundry*—Dragvold—Moe—Schesmoe—*Strange Observance of the Sabbath*—Romsaas—*Execrable State of the Roads near the Capital—Arrival at* CHRISTIANIA.

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Departure from *Trönjem*.

UPON the third of *October*, we took leave of our friends, and left *Trönjem* with much regret. Mr. *Horneman* and Mr. *Nelson* remained with us to the last moment before we quitted the town. It was one of the finest days ever seen. As we ascended the Mountain *Steenberg*, which rises to the west of the city, loitering and looking back upon the delightful scene afforded by the Bay, the buildings, and the mountains, every thing wore a cheerful aspect. We felt a wish that we might never lose the impression made upon

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us by our last view of this *Baia* of the *North*; for if there be a spot which, next to his own country, an *Englishman* might choose for his residence, it is *Trönÿem*: and while every grateful recollection of the kindness and hospitality of its inhabitants, and of those sentiments which had awakened sympathies that are the boast of *Britons*, remained fresh within our memory, we felt and acknowledged that *Trönÿem* had more of *home* in it than any other place in *Europe*, out of our own island. We had now parted with our little *Swedish* waggon, as it had no covering; and expecting rain with the autumnal season, had purchased a little low phaëton with a head to it, which was recommended to us as the best kind of vehicle for travelling in *Norway*. Walking by the side of it, in our way up the *Steenberg*, we found the heat almost oppressive. Several plants were still in flower: we collected many specimens of the Field Gentian (*Gentiana campestris*), that beautiful ornament of the alpine-pastures: its blossoms, clustering among the short grass, studded all the surface of the mountain: the whole plant, scarcely an inch in height, seemed to consist of little else than the petals of its flowers, which in size and luxuriance were out of all proportion to its diminutive leaves and branches.

Mild Temperature of the Climate.

We returned by our former route, as far as *Sognæs;* where the roads to *Trönijem,* from *Röråås* and *Christiania,* meet. In the course of this day's journey, as we descended from *Oust* towards *Melhuus,* we saw an amazing prospect of the *Guuldal,* a valley surrounded by mountains, excepting upon its western side, where an inlet of the sea appears, into which the *Guul* river discharges itself. This valley is highly cultivated [1]. The rocks have very singular shapes: they consist, for the most part, of *clay-slate* and *trap,* in which a number of vertical fissures occasion a prismatic appearance resembling *basalt;* but the remarkable tendency of the former to a quadrangular fracture, with tarnished

(1) "The *Guuldal* is a beautiful valley: it is long and broad, delightfully environed, and well-peopled. The views down the valley, over numerous and considerable hamlets and churches, with the broad and glittering stream in the middle, are altogether enchanting. Fertility and cultivation smile upon us from every hill. The whole antiquity of the nation is crowded together in this valley: it is the cradle of the land. Here *Norr* came first over from *Sweden.* Here dwelt the mighty *Hakon Yarl.* In this valley he was found out, and conquered, by the valiant, noble, and wise adventurer, *Oluf Tryggvasön.* Here many of the Heroes of the country dwelt in their Courts: and those kings who bloodily contested the dominion of the land, never imagined they had made any considerable progress in it, till they had conquered *Drontheim* and its valleys. Now we everywhere see healthy boors; and no *Hakon Yarl,* no *Linar Thambaskielver,* no *Duke Skule.* Their repose has sometimes been disturbed by the tempests of the *Swedish* wars; but the inhabitants continue to advance, in an easy yet perceptible progress, in all the arts of peace, towards their higher destiny."—*Von Buch's Travels,* p. 104. *Lond.* 1813.

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surfaces, discoloured by the *oxide of iron*, and decomposed, and somewhat splintery, serve to distinguish it in some degree from *basalt*; however nearly allied the subtances may be as to their chemical constituents[1]. From *Melhaus* to *Leir*, *Foss*, and *Sognæs*, the road meanders through close surrounding precipices, amidst bold and abrupt mountains, embosoming the waters of the *Gaul*. Between *Melhaus* and *Leir*, we were delighted with the beauties of the country; and especially with the elegance of a bridge constructed of the trunks of fir-trees, of one arch; of which there are many in *Norway*, of surprising magnitude and boldness of design, cast across the most rapid cataracts[2].

Scenery between *Sognæs* and *Hoff*.

There is nothing in all *Switzerland* to surpass the grandeur of the prospects between *Sognæs* and *Hoff*: and if, in stating this circumstance, it should appear but as a repetition of former observations, it is because this kind of scenery, in the general survey of the globe, is by no means

(1) The description given by *Von Buch* of the rocks in the *Gaulthal* makes the whole formation to consist of *clay-slate* and *grey-wacke* (see *Travels*, p. 106. *Lond.* 1813); but he is unable to ascertain the precise nature of the rocks between the *Gauldal* and *Trönjem*. "Are we to consider it," says he, "as *mica-slate*, or as *clay-slate*? On the *Stemberg*, towards *Drontheim*, downwards, it appears, at first sight, to resemble *clay-slate*." To our eyes, the appearance was rather that of *trap*; and perhaps this may explain the ambiguity.

(2) See the *Vignette* to this Chapter.

common: it is more prevalent in *Europe* than elsewhere, and most conspicuous in *Switzerland*, where "*Alps* on *Alps* arise." Consequently, the traveller who has enjoyed such sights in *Switzerland*, when he finds any thing similar in other countries, cannot avoid making the comparison; being touched by a feeling of gladness at the recurrence of objects inspiring the utmost degree of sublimity, and affording, by their *geological* phænomena, something to gratify his curiosity respecting the original formation and structure of the earth.

The mercury in *Fahrenheit*'s thermometer at *Sognæs*, at noon, stood at 51°. We shall be careful to note the changes of temperature, by observations made at the same hour, during our passage of the *Dovrefield*. The farms upon these mountains, as in the Passes of the *Alps*, rise one above the other, until they reach the clouds. Sometimes, as in our journey from *Körrås* to *Trönijem*, we saw clouds skirting the sides of a mountain upon which there appeared villages high above the clouds. These mountains rise to the height of three thousand two hundred *English* feet; which is the elevation assigned by *Von Buch*[3] to the mountains east-

Elevation of the Mountains.

(3) See *Von Buch's Travels*, *p.* 107. *Lond.* 1813.

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ward of *Melhuus*. The earth below them is formed into a series of tabular eminences, whose shapes are probably owing to the subjacent masses of *clay-slate*. They appear like the artificial ramparts of a fortification; their tops and sloping sides being covered with verdure. Upon these green mounds, farms are also stationed: the cattle belonging to each appeared in herds, grazing all the way down, and sometimes in places so steep, that we wondered how they could find a footing. We dined at *Hoff*; and for the first time tasted the old *Norwegian* cheese, called *Gammel Orse*, or *Norske*, of which the inhabitants are very fond. It resembles very excellent old *Cheshire* cheese, without any rankness. This kind of cheese is sometimes sent in presents to *England*; but the *Norwegians* themselves prize it so highly, that it is difficult to purchase any of it. The *Gammel Orse* is sometimes kept for ten years before it is brought to table. In making it, they use buttermilk, mixed with yeast. We observed, upon the circular tray in which the bread was served, an inscription in the *Danish* language, to the following effect: "*Eat your bread with thanks to God.*"

Gammel Orse.

In going from *Hoff* to *Birkager*, we ascended a lofty and steep hill, and from the summit had

a prospect of the *Alps*, covered with snow. 'The horses were entire, and without shoes. Woollen caps, made of red-worsted knit, are universally worn by the men: these are imported from *Copenhagen*, Almost every other part of the dress of the peasants is of their own manufacture: it is, in general, very neat and tight, and we considered it as superior to the common dress of our *English* labourers.' *Hoff* stands in the middle of the Valley of the *Sogna:* it is only one thousand and five feet above the level of the sea. In this road, fields of the finest verdure are seen among the trees, in the midst of which the *birch* appears with peculiar softness and beauty. The country produces rich crops of *barley:* the soil consists of a dark vegetable earth, and is very rich. Proceeding to *Sundset*, we descended into a wide and beautiful valley watered by the *Oerkel*. Hence, leaving the valley, we had a long, winding, and laborious ascent. The view below was in an eminent degree striking. The roads were stony, but our unshod stallions paced dauntlessly over them. Upon this ascent we found the *Pyrola uniflora*, in seed. From the summit, the view below exhibits the grandest masses of rocks, descending perpendicularly towards the valley, forming precipices nearly a thousand feet high,

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with *fir* and *birch* trees sprouting from their crags and fissures: whole mountains rise in the most abrupt manner from the green pastures and corn-fields by the sides of the river, and as they tower upwards, present upon their sides the noblest forests. High above the woods appear farm-houses and cultivated lands; and at a still greater elevation, forests; then a fleecy rack of clouds; then upland farms and forests again; and in the upmost range, glittering in æther, snow-clad summits, of all else, except their icy mantle, denuded, bleak, and bare. As the view, after extending over all their top and shining heights, descends amidst the aërial habitations of the upland farmers, it sees, with surprise, immense herds of cattle feeding at an elevation so extraordinary, that even the actual sight is scarcely to be credited. Every hanging meadow is pastured by cows and goats; the latter often browsing upon jutties so fearfully placed, that their destruction seems to be inevitable: below are heard the cheerful bleatings of the sheep, mingled, at intervals, with the deep tones of the herdsmen's *trumpets*[1] resounding among the woods.

Upland Farms.

(1) The same as the *Lure* in *Sweden*; that is to say, a long trumpet, made of splinters of wood, bound together by withy.

Sundset.

Soon after we had completed the ascent of this mountain, we descended, and arrived at *Sundset*. Here we found a numerous family assembled round a large fire, all busily employed. The accommodations were cleanly. The walls of the chambers were much painted, and even the beams in the ceiling were covered with inscriptions. These inscriptions, common in *Norway*, are always either of a moral or religious tendency, or relate to the duties of hospitality; and in this the resemblance to the customs of the *Greeks* is very striking: among whose modern descendants the taste for inscriptions is still so prevalent, that moral aphorisms in Modern *Greek* are commonly inscribed upon their drinking-cups, and upon the handles of their knives and forks[s]. *Sundset* is one thousand five hundred and seventy-eight feet above the

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(s) "I saw a man making a corn-shovel with an axe; and a book-case and bureau of very good carved work, which was done with a knife: these figures represented upon it were well executed. Everywhere we observe the symptoms of industry, and of a thriving people; yet beggars are not unfrequent. In the villages of *Norway*, if there be any miserable objects, you are sure to find them sitting by a door near the road, to start charity. This we never saw in *Sweden*, which is a much poorer country. In the room at *Sundset*, there was a Copy of Verses upon the wall of the room, that were composed upon Mr. *Bates*'s riding several horses at once, as at *Astley*'s. He exhibited his feats of horsemanship at *Copenhagen* in the year 1769, and no doubt astonished the *Danes* beyond measure."—*Cripps's MS. Journal.*

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level of the sea: and here the *spruce-fir* is seen mixed with *Scotch-firs;* but in this latitude the former is not found at a greater elevation[1]. Our journey the next day led us among the more savage districts of the *Fjäl* or *Alps*, and into regions of snow, where vegetation was sensibly diminished. Between *Sundset* and *Stuen*, we passed the copper-work and mine of *Indset*, upon our left. 'The stones which we saw on the sides of the road were of *gneiss* and *grey granite*.' We continued to ascend, as we journeyed towards *Stuen*, a *Danish* mile and a quarter. From *Stuen* we descended almost the whole way to *Ofnet*, close to *Opdal*. In the higher parts of this passage, the trees were few in number; and even those were dwindled in size, and disposed to creep. We soon recognised some of our old *Lapland* acquaintances; such as, *Betula nana*, with its minute leaves, like silver-pennies; *mountain birch;* and the dwarf *Alpine* species of *willow*, of which half-a-dozen trees, with all their branches, leaves, flowers, and roots, might be compressed between two of the pages of a lady's pocket-book, without coming into contact with each other[2]. At *Ofnet*

(1) See *Von Buch*, p. 103. *Lond.* 1813.

(2) After our return to *England*, specimens of the *Salix herbacea* were given to our friends, which, when framed and glazed, had the appearance of

Sno-Rīpas.

we bought an abundance of *Sno-Rīpas* (*Ptarmigans?*) with a plumage more beautiful than any we had yet seen. Many of them were already almost white; and this whiteness was more splendid than newly-fallen snow. We carefully took off the skins of several of these birds, that we might afterwards have them stuffed and preserved in *England*[3]. A very accurate account of the *Sno-Rīpa* is given by BRISSON[4], who calls it LA GELINOTE BLANCHE[5]. According to this author, it is the *white partridge* of the *Alps*. It is figured by *George Edwards*, in his "*Natural History of Birds*[6];" and *Brisson*, referring to this part of *Edwards*'s work, adds, "*avec une figure exacte:*" but the etching by *Edwards*

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of miniature drawings. The author, in collecting them for his *herbary*, has frequently compressed twenty of these *trees* between two of the pages of a duodecimo volume. "*Minima*," says LINNÆUS, "*inter omnes arbores est hæc salix.*"—Vide *Flor. Lapp.* p. 286. *Amst.* 1737.

(3) It was our intention to present them to the *British Museum*, having been always uncertain whether the bird named *Sno-Rīpa* be really the *Ptarmigan*. Unfortunately, upon our arrival in *England*, somebody recommended to us a boozing fellow (employed to shew to strangers the *British Museum*) as a proper person for stuffing these skins. It was said that he stuffed birds for our National repository of Natural History: accordingly, he was entrusted with the care of our *Sno-Rīpas*; but his incapacity was soon conspicuous; and being reproved for it, in a fit of drunkenness he destroyed the specimens.

(4) *Ornithologie*, tom. I. p. 216. *Paris*, 1760.

(5) "*Lagopus hyeme alba, æstate albo et fusco varia; rectricibus lateralibus nigricantibus, apice albis* .... LAGOPUS."

(6) Vol. II. p. 72. *Lond.* 1747.

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would never have reminded us of the original; it is too stiff and clumsy: his description is more accurate. The *Sno-Ripa* is one of the most beautiful of the feathered race. In the season when its hues are variegated, some of its feathers are brown, others tinged with a Nantkin buff colour; and all the feathers of its breast and legs are of the most splendid whiteness: its flesh is delicious food: it is nearer to a pheasant than a partridge in size. *Edwards* made his draught and description from a stuffed skin of the bird preserved in Sir *Hans Sloane's* Collection. This he confesses; and therefore it is not to be wondered at, that his representation does not strictly agree with nature. The *Sno-Ripa* escaped *Albin's* notice, and no faithful figure of this beautiful bird has yet been published: it is of the kind that we call *Heath Game*, being neither partridge nor pheasant. It thrives best in snowy regions, and therefore inhabits the tops of the highest mountains in *Europe* and *America*. In climates where the frost is so severe that the snow is like fine dry white sand, it reposes, towards evening and during the night, under the snow. In this manner it is found in *Hudson's Bay;* and we often found its dung in the hollows of the snow, where some of these birds had passed the night,

as *Edwards* says, "in their snowy lodgings." The *Italians* call this bird *Pernice petrosa*, and *Pernice alpestre:* by the *Germans* it is named *Schnee-Houn*. The people of *Iceland* and *Greenland* call it *Rypen*, and *Ryper*; and the *Laplanders*, according to *Linnæus*, give it the name of *Chenna*. The name *Ptarmigan*, if it be applied to the same bird, was bestowed upon it by the *Scotch*. Of all the places which it inhabits, one of the most remarkable is the stony and craggy summit of *Oar Vowhl*, in the mountainous and unfrequented Island of *Rum*, in the *Hebrides*, where it is sometimes but rarely seen in places almost inaccessible, and always upon the highest ridges.

Passage of *Dovrefield*.

At *Ofnet* begins the Passage, called, from its principal mountain, that of the *Dovrefield*, and, as it is observed by *Von Buch*[1], under circumstances very similar to that of the mountain *St. Gothard* from *Altorf*, and that of *St. Bernard* from *Martigny* in *Switzerland;* the length of the Pass being nearly the same as that of *St. Gothard;* and there is also some resemblance between the two Passes, in the nature of their declivities. In the evening we reached *Rüsen*, where we found a small but exceedingly clean inn; every

Rüsen.

(1) See *Von Buch's Travels*, p. 100. *Lond.* 1813.

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part of the walls, ceiling, floor, benches, and tables, which were all of deal, were perfectly white, and actually burnished with frequent rubbing. The peasants came into our comfortable little cabin, bringing *Black Game*[1] and *Snow Ripas*, in such numbers, that they offered to us whole sacks filled with these birds. They take them by snares and with guns. We bought many of them, at the rate only of fourpence *English* for the finest birds. Here we had also brought to us that king of the *Heath-fowl*, the *Mountain Cock*, or *Cock of the Wood*[2]; the body being as large as that of a *Peacock*, and its length nearly three feet from the point of its beak to the end of its tail. The season for killing game had commenced among the mountaineers. When the frost sets in, to allow of their being sent off in a frozen state to *Trönjem* and *Christiania*, the destruction is very great. Our only difficulty was, how to convey with us so many of these *Alpine* birds. At last, we had recourse to our former expedient, of taking off their skins, as the only part we wished to pre-

Moor Game.

(1) Urogallus minor. *Le Cog de Bruyères à queue fourchue.* Vid. *Brisson Ornitholog.* tome I. p. 186. *Paris*, 1760.

(2) Urogallus major. *Le Cog de Bruyères. Lagopus maximus.* Ibid. p. 182.

e; which employed us the whole evening: after making a hearty meal upon the bodies ome of them, we gave those which we had d to our host and his family, who did not a to set much value upon an acquisition, mere name of which is sufficient to make *English* epicure's mouth water.

he next day we came from *Rüsen*, amidst he scenery, to *Drivstuen*. Masses of *mica-* were conspicuous among the loose frag- ts of the rock. In the kitchen at *Drivstuen* saw seven men eating a most comfortable l of fried bacon and veal, some fried fish, e bowls of milk, and oatcakes and butter. h had his knife and fork and spoon, but the ls of milk were in common. We after- ds inquired of the master of the house, ther these men were all in his service: aid they were; and added, that there were others besides these, who lived with him; whole family amounting in number to twenty sons. He had but little ground near his elling, but cultivated a farm higher up the ntry. In fact, grain does not grow here, the place is two thousand four hundred and y-seven feet in elevation: but the mountains, *Säter* or *Alps*, and the valley itself, are cellently adapted for grazing, and the inhabi-

Drivstuen.

tants avail themselves of this advantage. They keep about thirty milch cows, send a number of cattle for sale to *Trönijem*, and breed, besides, strong and useful horses, highly prized for their docility and hardihood[1]. 'None of the men living with our host were married. His own appearance was altogether that of a common peasant. The establishment of the farmers in this country seems to be much larger than with us in *England*.' At *Drivstuen* begins the more immediate ascent of the *Dovrefield* mountain. The mercury in *Fahrenheit*'s thermometer, at mid-day, stood at 41°. Here they put four horses to our phaëton; providing us, also, with saddle-horses; as the next stage, to *Kongswold*, is exceedingly laborious and difficult[2]; but the magnificent scenery repays a traveller for all the trouble it will cost him: it is in the highest style of *Alpine* grandeur, not to say horribly sublime. The author could not call to mind any part of *Switzerland* where the mountains and the rocks exhibit bolder features than

(1) *Von Buch's Travels*, p. 99. *Lond.* 1813.

(2) *Von Buch* describes it as "dangerous and painful in the highest degree." (See Trav. p. 98. *Lond.* 1813.) But he passed on the 1st day of *April*, and met with great difficulty, owing to the state of the ice, in crossing the stream. He says, "he was compelled to feel, that in *spring* no person travels in *Norway*."

he beheld in this stage;—naked and tremendous precipices of *mica-slate*[3] on each side of the Passage, and the torrent of the *Driva* roaring below, in many an impetuous cataract[4]. All the tops of these towering crags were covered with snow, and often concealed by clouds, being also destitute of trees: but 'the lower parts were still enriched by the hardy *birch*, and nearer the bottom were *willows* and *wild cherries*.' The most beautiful and scarce plants were pendent among the rocks, especially of the genus *Saxifraga*[5]; and a species of *Gentiana* was still in flower, peeping above the snow. We found *Salix lanata*[6], guarded by its woolly coat, as if

Alpine Plants.

(3) In some places the *mica-slate* appeared to us to support *clay-slate*, which, from the nature of its separation into angular and prismatic masses, had an appearance resembling *trap*. This circumstance is not mentioned by *Von Buch*, to whose work the Reader is nevertheless referred for the best account of the *geological* phænomena of *Norway*.

(4) "The valley is, in truth, surrounded by steep and savage rocks of a most alarming height. We can no longer measure their height from below; and the huge blocks at the bottom seem inconsiderable pieces, when compared with the surrounding masses. It is such another fissure as the *Schöllenen* at *St. Gothard*, or the abyss of the *Hongrin* above *Château d'Oex*. It is not a valley in which the mountains incline gently towards the plain; but a rent, which divides the mountains throughout the whole extent of their breadth."—*Von Buch's Travels*, p. 99. *Lond.* 1813.

(5) *Saxifraga nivalis*; *Saxifraga stellaris*; *Saxifraga autumnalis*; and *Saxifraga oppositifolia*. Nothing can be more elegant than the hanging clusters of the last, like pendent pearls upon the rocks.

(6) "SALIX foliis integris utrimque lanatis subrotundis acutis." *Linn. Flor. Lapp.* p. 293. (368.) Tab. viii. fig. 10. et Tab. vii. fig. 7. *Amst.* 1737.

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wrapped in a pelisse of fur; also *Salix herbacea;* and such diminutive specimens of *Betula nana,* that the little circular leaves, smaller than upon the *Lapland* mountains, did not present surfaces of greater magnitude than those of split peas. The *Gentiana nivalis* was in seed: of this, as of many other seeds, we collected samples for our Botanic Garden at *Cambridge.* Just before the end of this stage of two *Norwegian* miles, we saw some very large icicles hanging from the rocks, six or seven feet long, and as thick as a man's arm.

Kongsvold.

We descended upon *Kongsvold.* This day, being that of the Sabbath, we found the inhabitants, as it is usual in *Norway,* all asleep. Five or six of the men came gaping out of a house; and upon our asking them if they had been sleeping, they all answered in the affirmative. Here they offered for sale the skins of large foxes, with very fine fur, at the rate of two dollars each. We had constantly inquired, in our route, for the skin of the *Cat Goube,* or *Norwegian Lynx;* and we asked for it at this place, but in vain. This animal is certainly rare at present in the country, although known to all the peasants. *Kongsvold,* surrounded by monstrous rocks, is one of the four "*Field-stuer,*" established on the *Dovrefield,* by King *Eyestein,*

in the year 1120, for the safety and comfort of travellers. We dined at this place: our servants arrived afterwards with the carriage, without meeting any accident. 'The horses that had been ordered came galloping up by themselves to the door of the inn, where they were fed with salt, which they seemed to eat very greedily. The *Norwegians* are almost as fond of salt as these horses. They have no idea of eating any thing quite fresh. The moment the butter comes from the churn, it is mixed with coarse lumps of salt. In one of the places where we halted for the night, a very fine trout was caught, which we were to have for supper; but the master of the house, as a matter of course, asked us whether we would not have it first salted. The family at this inn were all fair, fat, and rather handsome; the children particularly plump. One of the men had for his dinner, sour milk, oat-cake, cheese, and butter. All the men wore the same coloured coat, cut in the same fashion; and this *costume* continues for a great distance along this route. It was a kind of livery, or uniform of grey cloth, with green worked button-holes. The coats were made in the form of full dress, with long waists, short skirts, and very long flaps to the pockets. We had some thoughts

Grotesque habit of the Natives.

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of borrowing two of these suits, to help us out with our full dress at *Petersburg*, when we should arrive there; as the *ukase*, or order, of the Emperor *Paul*, for wearing such uncouth habits, even in a morning, had now been promulgated.'

Our journey from *Kongsvold* to *Jerkin*, a *Norwegian* mile and a half, was less difficult, and the road good. Almost the whole stage consisted of an ascent over the most bleak *Alpine* region, covered with snow; first by a ravine, down which the *Driva* is precipitated towards the *north*, between immense perpendicular rocks, in a rent which hardly affords room for the water of the stream. "Great fragments, like pyramids and towns," says *Von Buch*[1], "have in some places fallen down, and completely choked up the valley." Afterwards, a wild and dreary prospect was presented to us—wild bogs, and deserts, where the drifting snow seemed to be contending with the driving clouds through which we passed. Posts, placed to mark the road, stood as evidences of the danger to which travellers are sometimes exposed in these aërial solitudes. A wooden gate, in the midst of the upmost level, serves to mark the boundary between the two great Governments

Boundary between *Trönjem* and *Aggerhuus*.

(1) Travels through *Norway*, &c. p. 98. *Lond.* 1813.

of *Trönijem* and *Aggerhuus*. Here the road reaches an elevation of four thousand five hundred and sixty-three *English* feet above the level of the sea[2]. This is properly the head of the principal chain of the *Dovrefield*; and the elevation of the mountains here is by much the greatest in all SCANDINAVIA. This Pass exceeds in height almost all the known Passes over the *Northern* mountains. "But then the mountains which overtop the Pass!" says *Von Buch*[3]; who seems lost in wonder at the prodigious accumulation of *Alps* on *Alps* here presented. A mountain called *Sneehättan* rises far above the Pass, until its immense form is lost in the clouds. The traveller looks up to its summit, as from a deep valley, unconscious of the height upon which he stands. Mr. *Estmark*, with whom we afterwards became acquainted at *Kongsberg*, carried a barometer with him to the top of *Sneehättan*. Its summit had not before been reached by any man. He determined its elevation as being equal to eight thousand one hundred and fifteen *English* feet, nearly double that of *Ben-nivis*, the highest mountain in *Great Britain*: and he also ascertained that the whole of this stupendous mass

Sneehättan.

(2) Ibid. (3) Ibid.

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consists of *mica-slate;* of which substance the rocks are also composed in all the higher parts of the passage of the *Dovrefield.* Having at length gained the summit, we descended, for about the space of half an *English* mile, to the village of *Jerkin;* which is so situate beneath this eminence, that it was not visible to us until the moment before we reached the place. The inn was not so clean as the accommodations for travellers generally are in this route; and, as it generally happens in such cases, it was difficult to avoid imposition; indolence and want of principle being cousins-german. A demand of two dollars was made for our lodging only: this we refused to pay; and then they were satisfied with one dollar. We found, however, some tolerably good small beer: it was served in an earthenware brown mug, with a silver cover, holding a quart. The *Norwegians* are fond of finery: they like to have their tables and the windows of their apartments painted with showy colours: even the ceilings and beams of the roof are thus ornamented, and set off with blue and red colours. The tables are often painted in imitation of the coloured patterns of oil-cloth; and sometimes the sides of their rooms are lined with painted cloth. The houses are invariably roofed, or rather thatched,

Jerkin.

with a thick covering of turf-sod, in which trees sometimes take root and grow; and hay is almost always gathered from the roofs of the houses. 'We have seen lambs turned for pasture upon the tops of their houses, after the grass has been mown; so that it may be fairly said in *Norway*, they mow the tops of their houses, and then turn their cattle on for the after-grass.' The galleries about these houses may remind the traveller of *Switzerland;* and the girls of the country braid their hair into long *queues*, and dress somewhat like the female *Swiss* peasants. From our windows we had a wide and dreary prospect of snow-clad summits and extensive plains, in which there is scarcely a vestige of a tree; except here and there, in places, where the *dwarf alpine birch* and *creeping alder* penetrate the snowy surface.

We left *Jerkin*, on *Monday* morning, *October* the *seventh*, for *Fogstuen*, a stage of two *Norwegian* miles and a quarter. We were mounted on saddle-horses, and had three horses for the phaëton; but we soon found that there was no necessity for so much cavalry. A hard frost had rendered the road excellent, although covered with snow; and we travelled with as much expedition as in *Sweden*. Not a leaf now remained upon any of the dwarf plants peeping

Fogstuen.

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through the snow; nor was a tree to be seen anywhere: all was airy alpine nakedness. We saw marks, in the snow, of the feet of animals, which we believed to be those of bears: other tracks, also, were visible, that seemed to have been made by wolves and foxes. Our horses disturbed some *Sno-Ripas*. We passed two lakes: one upon our left, called *Af Soe;* the other, named *Vola Soe*, upon our right. This last is connected with smaller lakes, extending to *Fogstuen;* whence the *Folda* river takes its rise, and proceeds eastward to the *Glommen*, which it joins near *Lil Elvedal*, just after passing *Fredericsgaves* copper-work. We found a neat little room at *Fogstuen*. The inn here is situate in a level valley: it is intended solely for the reception of travellers passing the mountain. *Von Buch* compares it to the *Hospice* of *St. Bernard*, because it is one of the highest habitations in the country, and buried, in a similar manner, in almost perpetual winter; but we had not yet attained the summit of *Dovrefield*. The ascent to the highest point was made after leaving *Fogstuen* for *Tofte*. In this journey, however, the road was so excellent, that we proceeded in our phaëton, which was drawn by three horses. The snow was about five inches in depth. We had a long ascent to the highest

point of the passage; but at mid-day we arrived upon the summit, and immediately estimated the temperature of the atmosphere. The weather was remarkably clear and fine; scarcely a cloud was visible. Before we could take the thermometer from the case in which it was contained, the mercury had fallen below the freezing point; and in five minutes it fell to 27° of *Fahrenheit*. We then found the air so keen and piercing, that we did not give it a longer trial. This point is the greatest elevation of the road in the whole passage of the *Dovrefield:* its height, as stated by *Von Buch*[1], is four thousand five hundred and seventy-five *English* feet above the level of the sea. The hill itself is called the *Harebacken*[2]. Upon this elevated spot we detached from a rock, as the only memorials of

Harebacken.

(1) *Von Buch*'s Travels, p. 96. *Lond.* 1813.

(2) "The *Norwegian* language is rich in names for the different forms of mountains. *Aas* (Ohs) is a very long-extended row of small hills; *Kullen*, is an insulated prominent head; *Nuden*, a round and less prominent hill; *Egg*, a sharp ridge, an edge; *Hammer*, a rocky cape, which juts out, either into the sea or the plain; *Bakke*, is a little hill; *Fieldt*, on the other hand, is the highest mountain, rising beyond every ordinary human habitation; *Tind*, a point or peak on the mountain, the *horn* of the Swiss, and the *aiguiller* of Savoy; *Fond*, an ice-hill; *Bräe*, or *Gökul*, among the *Laplanders* geikna (*jäkna*), a glacier. In *Christiansandstift*, a distinguished height visible at a great distance, is called *keien* or *kei*—eidsheien." (*Von Buch*'s *Travels*, *p. 52*, *Note.*) The natives of *Finland*, in their language, have almost as many names for the different forms and modifications of snow.

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the place we could bear away, some specimens of one of the most elegant *mosses* we had ever seen, with minute hoary divergent branchlets (*Lichen pubescens?*). It reminded us of *Darwin's* beautiful allusion to the singular locality of plants of this *genus*[1]. Upon the *moss*, exceedingly small scales of silver *mica* might be discerned, glittering among the leaflets: and the same curious mineral decoration of the hairs of the *Mountain-moss* was also extended to the leaves and branches of the *Salix myrsinites*, which we found near the same spot. Perhaps something similar might first have suggested to antient nations the custom of powdering their hair with *arenaceous mica*. The Emperor *Gallienus*, according to TREBELLIUS POLLIO, "*crinibus suis auri scobem aspersit.*"

Descent from *Dovrefield.*

Immediately after passing this place, a descent begins towards the *south;* and from regions of ice and snow the traveller is suddenly conducted into the most beautiful valley that the imagination can conceive. From the summit we had a very extensive view of all this chain of mountains: their tops appeared below us,

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1) "Retiring *Lichen* climbs the topmost stone,
And mid the airy ocean dwells alone."
Botanic Garden, Part II. v. 295. p. 29. *Lond.* 1813.

covered with snow. The moment we began to descend, a change took place; and in three quarters of an hour we passed from a frigid to a temperate climate. Long before we reached *Tofte*, we were able to collect plants in flower. The snow vanished—trees appeared—the road was dry and in good order—and in the space of forty-five minutes from our leaving the summit, the mercury had risen in the thermometer to 36°. Nothing can be more remarkable than this sudden transition, in descending *Dovrefield* towards the south. The change is much more rapid than on the *northern* side: the season, consequently, was much less advanced. All the trees excepting the *birch* retained their green foliage; but the leaves of the birch had changed, and were falling[2]. The mountains on this side appeared of an astonishing height, and rose more abruptly on each side of the passage than in the *northern* declivity. Their summits were visible above us, capped with snow.

Geological Phænomena.

(2) We collected seeds of the *Astragalus alpinus*, *Pinguicula alpina*, and *Pyrola uniflora*: also, near the summit of *Dovrefield*, in descending towards the *south*, we discovered that rare plant the *Saxifraga Cotyledon*, in flower; together with *Saxifraga nivalis*, and *Saxifraga oppositifolia*. The other plants in flower, added to our *herbary* in the course of this descent, were, *Hieracium alpinum*, *Gentiana campestris*, *Vicia sylvatica*, a dwarf alpine *Geranium*, for which we have no other name, and various species of *Lichen*.

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Everywhere the rocks consist of *mica-slate*; in which the only variation arises from veins of *quartz*, and sometimes from contiguous and parallel masses of *gneiss* or *schistose granite*. As we descended, *firs* and *juniper*-trees began to make their appearance again; extending for a certain distance up the sides of the valley: above them were naked rocks. The principal plants near the road were wild *Myricas* and *Vaccinium*. At an earlier season of the year, as we were afterwards informed, our friend Mr. *Otter* had found this part of the Passage of *Dovrefield* the best place for botanical pursuits he had ever seen. The *Primula Norvegiensis*, and many new plants, were here added to his herbary. The inn at *Tofte* was remarkably neat and clean. We dined here, upon some of the *Sno-Ripas* we had brought with us, and a soup made of eggs, milk, and sugar; in fact, what we should call *custard* in *England*. The women here were handsome: they had fair complexions and agreeable countenances. In all parts of our journey through *Norway*, we were struck with the superiority of the *Norwegian* above the *Swedish* women. One of the young women here was upon the eve of being married: she was very handsome. Her lover was present: we had therefore an opportunity of seeing them in the

Tofte.

Marriage Customs.

full dress worn by the peasants upon such an occasion. There was nothing very remarkable in the dress of the young man, beyond what we have before described; excepting that his clothes, shaped according to the uncouth fashion already noticed, were of a white colour, and that he wore very large buckles in his shoes. The girl was dressed in a jacket and petticoat of brown cloth. Upon her head she had a cap of black silk, edged with silver lace, over which she wore a black silk handkerchief as a turban: this head-dress was further set off by a little pink riband tied under the chin, part of which fell down the neck behind. Her shift was fastened in front by a neat silver broach. She had high heels to her shoes, that were soled with iron; and also wore large buckles. She had rather a dark complexion, with the most regular arched eyebrows and dark hair, aquiline features, and the liveliest bloom upon her cheeks. Judging from the warm hue of her complexion, and the form of her countenance, one might have imagined her to be rather a native of the north of *Italy*, than of the mountains of *Norway*. Yet such a cast of features belongs to the female peasants of this country, who are thereby remarkably distinguished from the *Danish* women. Her mother had been also extremely beautiful:

she had eight children. When a marriage takes place in *Norway*, open house is maintained during an entire week, to all comers. Every neighbour, and every relation of the bride and bridegroom, bring with them provisions, as a contribution to this feast. The new-married couple are expected to provide beer and brandy. The food consists of *meat, cakes, fritters*, &c.; besides a standard dish for a wedding, which is called *cabbage-soup;* it is made with beef, and pork sausages, and contains culinary vegetables of every sort. When the guests take their leave, they all make presents to the wedding-pair, according to their circumstances and the degrees of their consanguinity and friendship. Some give them two, others three, four, and five dollars; and in this way a newly-married couple will collect sometimes a sum equal to three hundred, and rarely less than one hundred dollars. They marry young; but the women marry much earlier than the men. Upon these occasions the peasants frequently consign to their care the management of their farm; taking no other security, than a bare promise from their children that they will never suffer them to want. According to this custom, the young *Norwegians* have only to marry, and the means of subsistence follow as a matter of course; and

this encouragement to "increase and multiply," among a people naturally prone to industry, may perhaps in some degree explain the cause why the population of *Norway* so much exceeds that of *Sweden;* where the same custom exists, with much greater limitations; and where the people, equally industrious, are less disposed towards agricultural pursuits.

After leaving *Tofte*, we entered the beautiful valley called *Guldbrandsdale*, and proceeded by the side of the River *Louven*. From this place, to the distance of one hundred and seventy *English* miles, the road continues through a series of the finest landscapes in the world. Indeed, it is allowed by all travellers who have made this journey, and whose opinions upon such a subject are worth citing[1], that 'it is doubtful whether any other river can shew such a constant succession of beautiful scenery.' Another remarkable circumstance, characteristic of the whole district, is, that it is remarkable for the tallest people, and the finest horses and cattle, in all *Norway*. The women are fair and

(1) The author would particularly notice the testimonies of Professor *Malthus* and Mr. *Otter*, whose observations respecting the astonishing beauty of the scenery in this part of *Norway* perfectly agree with the description of it which has been here given.

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handsome; and the men, stouter and more athletic than any we had ever seen, except in *Angermannland*, with their light and long flowing hair, reminded us of *Ossian*'s heroes. The farmers, all along the vale, are reckoned rich, and a very good sort of people. Surrounded, therefore, by every object worthy of admiration, pleased with the country and its inhabitants, we were, of all men, the least disposed to engage in a quarrel with the natives: yet, in consequence of a very trivial and unavoidable mistake, to which travellers are liable, we encountered one of the most deadly feuds, to which, without death providentially on either side, it was possible to be exposed. In general, the peasants who supply the post-horses accompany the traveller's carriage, to see that their horses are taken care of; but with our light phaëton, we had left these men in the rear, and consequently had passed the post-house at *Olstad*, where the horses ought to have been changed, without having noticed it; and were proceeding in the road to *Formoe*, the next relay. As we were ascending a hill, we observed the drivers of our luggage making great efforts to come up with us; upon which we loitered, and they overtook us, bringing with them the owners of our horses. At this moment, rushing towards the phaëton,

Perilous Assault.

they attacked us in the most violent manner, two of them being armed with bludgeons; and as we had no other idea, from the manner of the assault, but that they intended to murder us, we determined to sell our lives as dearly as possible. We had the good fortune to succeed in wresting the largest bludgeon from the hands of one of them; and being joined by our *English* groom, who quitted the reins of our horses for this purpose, we presently made the other fellow surrender his bludgeon also. Being thus disarmed, with the agility of mountain-goats they scrambled up a stony steep upon the left side of the road, where, having gained a commanding situation above us, each of them took up a huge stone, and, holding it in a menacing posture, threatened to hurl it upon our heads if we attempted to advance. As this was the only pause which had occurred from the onset of this broil, and they had now seen that we were determined not to yield to them, we attempted a parley. Unfortunately, our interpreter, having made the same mistake that we had done, had gone forward; but by signs, with a few words of *Norske*, we gave them to understand, that if they would throw down the masses of stone which they held, we would also lay aside our bludgeons. To this they assented,

and the weapons on either side were mutually discarded. We then beckoned to them to descend, and held out our hands towards them in token of peace. To our surprise, they came to us, and shook hands with us; and, as they seemed disposed to shed tears, we began to perceive that we had unknowingly been the aggressors. We therefore resigned every thing into their care, and they conducted us slowly to *Formoe*. Here every thing was explained: it appeared that a very laudable tenderness for their horses had been the cause of their rough treatment of us, whom they believed to be actuated by a design of ill using their cattle: and, as it sometimes happens where blows have been pretty liberally bestowed upon both sides, we did not part the worse friends because we had fought as enemies, but took leave of each other mutually desirous of forgiveness and reconciliation.

These two stages, from *Tofte* to *Olstad*, and to *Formoe*, considered with respect to the grandeur of the scenery, constitute the finest part of the Passage: it is, perhaps, the boldest defile in *Europe;* not even excepting that of *St. Gothard*, near the *Pont du Diable*, in *Uri*. Precipices, woods, and cataracts, produce a mixture of fear, wonder, and pleasure, which it is actually

necessary to have felt, in order that any idea of it may be entertained. Indeed, it would be to little purpose that an endeavour is made to describe such prospects; but that there are many who have had this feeling, and who will call the scenery to their imagination from the suggestions which a few notes made upon the spot are calculated to afford. The road, as in the Passage of *St. Gothard*, is very often little more than a shelf placed along the side of a precipice; and at a great depth below it, is heard the noise of a torrent. Looking backwards or forwards, the projecting terminations of the different mountains, intersecting each other towards their bases, produce the wildest and most gloomy glens. Upon their craggy sides, towering forests, reaching almost to the snow-clad summits, wave their dark branches over cliffs where there seems hardly soil enough to maintain the *Lichen* hovering upon the stony precipice. From the sides of these mountains, innumerable cascades, dashing among the rocks and through the trees, carry their clamorous tribute to the torrent of the *Louven*, whose mightier and more impetuous waters, shaking the very rocks, seem to agitate the whole wilderness, as by an earthquake. One of those tributary cataracts, after a fall of at least five

Louven River.

CHAP. VI.

hundred feet, having swept away every trace of the road, if ever there had been any road here, now rushes beneath a bridge of fir-trees, and is thence hurled into the gulph beneath. As we stood upon this bridge, wet with its scattering foam, we beheld, above us, to our surprise, part of the structure of a mill-dam, which the people of the country were endeavouring to build of the trunks of trees, upon some projecting rocks in the very midst of the falling water. How it was to remain an instant in that situation, when finished, its owners best knew. This bridge and cataract is near *Formoe:* but many other instances might be mentioned of prospects equally striking, if it were possible, by mere description, to do justice to the angry grandeur of scenery, which renders *Norway* more worth seeing, to the lovers of picturesque beauty, than any other country in the world[1].

The appearance of the farm-houses upon the mountains, standing upon the very brink of precipices to which there are no perceptible means

(1) To the *Geologist*, every step he takes through this defile will present him with objects worthy of his investigation. The crumbling disposition of the rocks, their separation into *drusy* fissures, the regularity of their shapes, which he will observe in many of the immense masses that have fallen over the road, especially towards *Formoe*, lead him to believe that he is surrounded by mountains of *basalt;* but these masses belong to *porphyritic* strata. *Quartz* also appears towards *Formoe.*

of ascent, is one of the most extraordinary sights which a traveller meets with. We saw harvest yet standing, near one of those farms. 'A farmer who met us on the road had descended from the heights, where he cultivated many acres of land: he had sixty cows, and fifteen horses, besides other stock.' We found an excellent inn at *Formoe:* the rooms were lofty and spacious. Every thing was as clean as it could be: but the customs are so strictly those of former times in *England*, that, from the appearance of one of these houses, an *Englishman* would call to mind the manners of his ancestors, as they are still preserved in some part of our country. Old ballads pasted on the wall—story-books of witches and giants—huge heavy carved work upon the cupboards and furniture—rows of shining pewter-plates and earthenware—brown mugs for beer—hog's puddings and sausages dangling from the roof—these, and all the amusements of their fire-sides, carry us back to "the golden days of good *Queen Bess*." In their houses, cleanliness may certainly be considered as very generally a characteristic: a dirty dwelling is an uncommon sight in *Norway;* and in the few instances where it occurs, a large family of young children belonging to poor parents serves to account for it. We were now entering

Formoe.

English Customs.

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Gulsbrandsdalen.

Gulsbrandsdalen, famous, as we have said before, for the tallest and stoutest men in *Norway*: yet the men of this country, although robust and hearty, appeared to us to be of lower stature and less athletic, than the *Swedes*, especially the inhabitants of the *north* of *Sweden*. From the *Danes* they differ in many respects; in having dark hair and copious eye-brows, with countenances full of expression, and the ruddiness of health upon their cheeks. The *Dane*, with an unwieldy stature, and sometimes gigantic limbs, is characterized by a countenance devoid of expression; or, if it express any thing, exhibiting features of apathy and stupidity: add to this, long white hair falling straight on either side of a face with light blue eyes and scanty white eyebrows.

Upon the *seventh* of *October*, we left *Formoe*, and proceeded to *Elstad*. In our first stage to *Breiden*, we had excellent roads, and they were rendered the more perfect by a hard frost. The summits of all the mountains were now covered with snow, and there was not a cloud in the sky. *Fahrenheit*'s thermometer at twelve o'clock, 37°. But some plants were still in flower[1];

(1) Euphorbia helioscopia; Geranium cicutarium; Ranunculus acris, &c.

and as we descended lower, the trees were less and less affected by the season. The road to *Breiden* is an *alpine* defile, and descends the whole way. The aspect of the scenery was much the same as upon the preceding day. Before we reached *Breiden*, a bridge thrown across a cataract, upon our left, again presented us the astonishing appearance already noticed in the journey to *Formoe*, of a square timber mill-dam placed in the middle of the falling torrent, for the purpose of arresting and carrying off, in wooden channels, a portion of the water, to supply some sawing-mills, which have been constructed, in a manner almost as remarkable, by the side of the cascade. We halted for a short time, to make a sketch of this wonderful scene. The fall of water is not in all seasons of the year so great as it was at this time: it is evident that the mill-dam could not long resist the continued action of such a furious tide as we then beheld: to us it appeared very marvellous that it was not swept away by the flood. This dam was constructed of the same materials that were used in building the bridge and the sawing-mills, namely, of the trunks of fir-trees almost in their natural state. The appearance of the bridge was uncommonly light and elegant: it seemed, as it were, to fly

Cataract and Bridge.

CHAP. VI.

across the tremendous gulph occupied by the foaming cataract. Our light phaëton made no impression upon it; but few would like to be among the number of passengers, as they are seen heaped upon our *English* stage-coaches, if one of these coaches were engaged in passing such a bridge. Icicles were pending from the rocks above and below; and the whole exhibited a scene that may be considered as peculiarly characteristic of *Norway*. Somewhat farther on, we came to the famous Pass of *Kringelen;* and to a tablet placed by the road side, with an inscription commemorating the overthrow and slaughter of nine hundred *Scotch* soldiers commanded by Colonel *George Sinclair*, who were all defeated and put to death, in this defile, by the ancestors of the very same peasantry who had handled us so roughly: and, with the bruises yet upon us, it may be imagined we heard its interpretation with a due degree of feeling and interest; grateful that we had escaped being "*crushed,*" as the inscription tells[1], "*like pots of* clay." This inscription is in *Norwegian* verse, and in rhyme, as follows:

Pass of *Kringelen.*

Fatal Expedition of Colonel *Sinclair.*

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(1) "HER BLEVE KNUSEDE FAST LIGESOM LERR-POTTER,"—the very words of the *Inscription*, and evidently an allusion to a passage in the PSALMS,—"*Thou shalt dash them in pieces, like a potter's vessel.*"

MOD, TROSKAB, TAPPERHED, OG HVAD SOM GIVER ÆRE,
DEN HELE VERDEN KAN BLANDT NORSKE KLIPPER LÆRE!
En Pröve er der seet af saadan Tapperhed
Blandt Klipperne i Nord ret just paa dette Sted:
Et vel bevæbnet corps af nogle hundred *Scotter*
Her bleve knusede fast ligesom Leer Potter.
De fandt: at Tapperhed, med Troskab og med Mod,
I Gulbrandsdölers Bryst i fuld Esse stod.
Georg von Sinclair, som var *Scotternes* Anförer,
Han tænkte ved sig selv, mig her slet ingen rörer.
Men see! et lidet Tal af Bönder for ham var,
Som hannem Dödens Bud, af Krud og Kugler bar.
Vor Nordiske Monarch, Kong *Christian den Sjette*,
Til Ære paa Hans Vey vi have opsat dette:
For ham vi rede er' at vove Blod og Liv,
Indtil vor Aand gaaer ud, og Kroppen ligger stiv.

The same, literally translated.

COURAGE, LOYALTY, INTREPIDITY, AND WHATSOEVER GIVES HONOUR,
THE WHOLE WORLD AMIDST NORWEGIAN ROCKS MAY LEARN!
A proof has been seen of such intrepidity
Among the rocks of the North, in this very place:
A well-armed corps of some hundred *Scots*
Was here crushed, just like pots of clay.
They found, that intrepidity, with loyalty and courage,
Lived in full glow in the breasts of the men of *Gulbrand's dale*.
GEORGE DE SINCLAIR, who was the Leader of the *Scots*,
Thought within himself, here no one opposes me.
But, lo! a small number of peasants appeared before him,
Who bore to him Death's message, by powder and by ball.
Our Northern Monarch, King *Christian the* VI*th*,
In honour of his way we have erected this:
For him we are ready to risk our blood and life,
Until our breath goes out, and our bodies lie stiff.

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The place where *Sinclair* was buried is still shewn. *Kringelen* signifies a *narrow pass*, or *defile:* it is formed by a precipice bordering on the River *Louven*, which, after flowing through *Gulbrandsdale*, falls into the *Miösen* Lake. The battle here commemorated happened in 1612, on the 24th of *August*. The historian, *Gerhard Schjonning*, states that it was fought between 1200 *Scotch* soldiers, and 500 *Norwegian* peasants armed with a few muskets, bludgeons, bows, and stones. The greatest havoc was made among the *Scotch* troops by the large stones which the *Norwegians* threw upon them from the heights. Colonel *Sinclair*, it seems, expected no attack; for almost all the youth of the country had been drawn to the *Swedish* war in the south of *Norway*. The cause of the invasion is given by *Von Buch*. *Gustavus Adolphus* of *Sweden*, in his first unsuccessful war with *Christian the* IV*th*, despatched Colonel *Munckhaven*, in the spring of 1612, to enlist men in the *Netherlands*, and in *Scotland*. As the Colonel was endeavouring to return, in the end of the summer, with 2300 fresh troops, he found the fortress of *Elvsberg*, at *Gothenburg*, in possession of *Christian*, and the whole coast, in consequence, from *Norway*, beyond *Calmar*, shut to the *Swedes*. Necessity compelled him to break through *Norway*. The

greatest part entered the *Fjord* of *Trönijem*, landed in *Stördalen*, and found no *Gulbrandsdalians* to oppose them. They were thus enabled to proceed, over the mountains, to *Jemteland* and *Herjeädalen*, and, by their arrival, preserved the Capital of *Sweden*, which was threatened by the *Danish* fleet. But Colonel *Sinclair* landed in *Romsdalen*. He had already proceeded many miles, through *Romsdalen*, *Lessöe*, and down the valley below *Dovrefield*; and might well believe the *Swedish* frontier at hand, when he was destroyed by the circumspect and daring attack of the boors in *Kringelen*. There is a ballad heard in all the towns of *Norway*, which will long hand to posterity the memory of *Sinclair* and the *Gulbrandsdalians*. It begins thus:

> "*Sinclair* came over the *North* Sea,
> To storm the cliffs of *Norway*."

The boors concerned in this affair were peasants of *Lessöe*, *Vaage*, *Froen*, and *Ringeboe*. Their leader was *Berdon Segelstadt*, of *Ringeboe*. With regard to the *Inscription*, the two first lines are of much earlier date than the rest, and were in fact the whole of the original inscription. They have altogether a *Spartan* character: but their simplicity is destroyed by the addition which has been made to them. There is also a

History of the Inscription.

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long prose detail, below, which relates to the persons by whom the addition was made. *Frederic the* IV*th*, in 1704, when he passed the *Dovrefield*, in his way to *Trönijem*, ordered a medal to be struck, with the two first lines upon it. His successor, *Christian the* VI*th*, passed by the same road, in his journey to *Trönijem:* he added to those verses, and enlarged upon the subject of them; ordering Dean *Hjorthoy* to compose the lines which were afterwards subjoined; affording no very favourable specimen, either of the Monarch's taste or of the Dean's poetry. It is recorded, that two of Colonel *Sinclair's* officers, the Captains *Bryske* and *Ramsay*, were sent as prisoners to *Aggerhuus* Castle, with the Colonel's lady and her infant child, and thence conveyed to their own country. *Von Buch* says, that about sixty of the *Scots* interceded for life, and were taken prisoners. They were divided among the hamlets, where, he adds, it was forgotten that prisoners were no longer enemies. The boors soon grew tired of feeding a number of defenceless men: they were therefore collected together into a large meadow, and murdered in cold blood; one only escaping. He does not mention his authority for this last statement. He only says, "The fact is not told in the *monu-*

ments[1]; but they have not destroyed its reality:" it is however so inconsistent with the *Norwegian* national character, that a reasonable hope may be entertained of its want of authenticity.

Breiden.

We changed horses at *Breiden*. 'The river which we passed in a boat, to get to the inn, was equal in breadth to the *Thames* at *Richmond*. The rocky fells are here in fine shapes, and there are some pleasing meadows about the place.' Between *Breiden* and *Viig*, the country becomes more open, and it is more inhabited; but throughout the Passage of the *Dovrefield* there is no want of inhabitants. The mountains are peopled from their bases quite up to their summits; farm-houses being everywhere visible, standing on little sloping terraces, above precipices so naked that they exhibit scarcely a mark of any vegetable produce; excepting where the *pine* and the *birch* occasionally sprout from fissures in the rocks. In looking up these precipices, if a spot appear not absolutely perpendicular, there may be seen a *goat*, and sometimes even a *cow*, browsing, in

Peculiar Character of a *Norwegian* Landscape.

(1) Alluding to the two inscribed *Tablets*; one here, in the Pass of *Kringelen*, in the parish of *Vaage*, where the battle took place; and the other hard by, where Colonel *Sinclair* and his unfortunate companions were buried. *Von Buch* was conducted by the natives to the place of their interment, which is called "*Sinclair's Grave*."

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places where it seems to be impossible that they should move without being dashed to atoms. Indeed, it sometimes happens that the latter is altogether unable to quit the place to which it has ventured; and, in such cases, a peasant is let down, with ropes, to the spot, who fastens them about the animal, and both are drawn up by herdsmen above. Journeying through *Wales*, the appearance of sheep feeding in mountain pastures is a pleasing but no unusual sight; and in *Switzerland*, the exhibition of farms stationed in alpine solitudes delights the traveller by the singularity and pleasantness of the prospect: but in *Norway* the impression is not that of pleasure—it is a mixed sensation of amazement and of terror. Perhaps, if a *Norwegian*, born and educated amidst these scenes, were suddenly removed into *Flanders*, he would burst forth into raptures at the sight of such an extensive level territory: indeed we know that the *American* farmer, who has felt the difficulty of clearing a tract of forest land, of the timber which he regards only as an incumbrance, is always charmed in beholding districts denuded and flat as the plains of *Tahtary*, and which he invariably terms "a fine open country:" but the *Englishman*, to whom campaign land and cultivated fields are common

objects of observation, when he is admitted into the Passes of the *Norwegian* Alps, where he finds himself surrounded by rocks and precipices and woods and cataracts, feels that he can dwell with wonder, and even with reverence, in the most savage recesses of the mountains; that his mind is never more disposed towards sublime reflections, nor ever more elevated towards his Creator, than in the midst of so much awful, solemn, and terrific grandeur; where Nature always assumes a frowning aspect; where, instead of the gladness which is inspired by views of human labour in milder and more cultivated scenes, a deep sense of seriousness bids him regard the manifestations of supernatural power, as teaching him that "there are yet greater things than these."

The road all the way from *Breiden* to *Viig* is a descent skirting the base of a mountain. At *Viig* we found a very dirty inn[1]; which is *Viig.*

(1) The same of which *Von Buch* complains, who came to this place six years after our visit, and describes it in his usual spirited manner. "The whole family dwelt together in one room, and there was no division of any kind between them and the stable: the pigs run about between the beds. This is true laziness! Hitherto I had never seen a house of this description; and in an inn it was the more remarkable. In *Little Hammer*, in *Moshuus*, in *Lösnes*, and *Oden*, there are always tolerably well-furnished rooms set apart exclusively for travellers. . . . . This is also the case farther on, till we arrive at *Drontheim*. But *Viig* put us in mind of the *Polish* villages."

Travels in Norway, &c. p. 88. *Lond.* 1813.

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really a rarity in this country. We passed several cascades. The situation of the inn at *Viig* is beautiful. The villages are in this respect very much alike: they all possess the same character—a valley through which the river flows, surrounded by mountains well covered with forests of fir and birch. Our third stage this day was from *Viig* to *Moen*. After leaving *Viig*, at the distance of about an *English* mile, it being twelve o'clock, we halted, as usual, to observe the thermometer. The mercury stood at 37° of *Fahrenheit*. It was evident that our elevation was still considerable, although we had no means of ascertaining it. Afterwards, we descended the whole way to *Moen*. The roads were the best we had seen since we left *Sweden*, and we travelled with as much ease and expedition as in that country. As we proceeded in our descent, the mountains became more and more open; they seemed to expand before us, forming wider and more magnificent valleys, through which the *Louven* either placidly flowed, or impetuously roared. As the owners of the post-houses often neglect to hang out their signs, we were in constant danger of falling into the same mistake which had occasioned such a turmoil near *Olstad*. This was the case

Moen.

at *Moen:* we had passed the relay before we

were aware of it. The church is a picturesque object; and the same may be said of almost every ecclesiastical structure in *Norway*. In going from *Moen* to *Oden*, the numerous farm-houses, with all their out-buildings, like so many villages, reach, from the water's edge, over all the mountains quite up to their summits: some of them appearing even in the upland snows, afford, certainly, one of the most remarkable sights in *Europe*. Something of the same nature may be observed, it is true, in *Switzerland*, but not to the same extent; neither are the prospects so richly diversified as in *Norway*, where the great variety and beauty of the forests make the view more striking. As we continued our descent, the snow upon the heights became less conspicuous, and appeared in less quantity. We still found rare specimens of *saxifraga* in flower upon the rocks, together with many beautiful mosses and autumnal plants. The gaudy tints upon the woods, at this season of the year, gave an exquisite luxuriancy to the landscape. The only tree yet affected by the night frosts was the *birch*, which was beginning to lose its leaves; and this tree, being abundant in all the forests, blended, with singular beauty, its yellow and red tints with the deep green of the *pine*, the *alder*, the *aspen*, the *linden*,

Beauty of the Forests.

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and the *smell*. From the mountains on every side there fell numerous cascades. We did not pass a mile without being charmed with some new and striking scene. The dress of the inhabitants does not materially differ from that used by the natives in the *north* of *Norway*, excepting that red worsted caps were now very generally worn. Having passed *Oden*, on the right-hand in going to *Elsund* between the road and the river, we observed an antient conical *tumulus*, perfect as to its state of preservation, and of considerable magnitude. It was covered with green turf: upon its summit, in the place once occupied by the primeval *stèlè*, was a groupe of trees. Near this *tumulus* there is another, with a single tree growing upon it; and, not far distant, may be observed the remains of other mounds of the same nature, less perfect as to their forms. We had a curious trait of the different virtues of the *priest* and the *peasant* at *Oden*. Upon our arrival at the post-house, we found a party of beggars hospitably entertained by the poor owners of the dwelling, who supplied them with meat and drink, and a comfortable fire, after their long journey. These beggars

Oden.

Tumuli.

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1 Cratægus Aria.

were old women; whither bound we know not; but a poet might have imagined them to be Gods in disguise, proving the hospitality of *Baucis* and *Philemon*. They had been, they said, to the priest, to crave a little charity; but were dismissed by the reverend pastor with a load of reproaches and the most abusive language. In the evening we arrived at *Elstad*, situate upon a natural mound, or rampart, above the river, at the southern extremity of one of the finest valleys in *Norway*. Here our former companions, *Malthus* and *Otter*, had halted in their journey, being struck by the beauty of the scenery; that they might enjoy the pleasures of bathing in the *Louven*, and of rambling about the mountains. The valley itself is perfectly level, highly cultivated, and surrounded by very high mountains, seeming to close it in on every side. The sides of those mountains are covered by farms and farm-houses. Their bleak and lofty summits were now capped with snow. Had we visited this valley, as our friends did, from the *south*, we should doubtless have felt the sensations which they experienced in viewing it; but having beheld so many finer scenes in *Norway*, we were no otherwise struck by the appearance of *Elstad*, than as a continuation of

Elstad.

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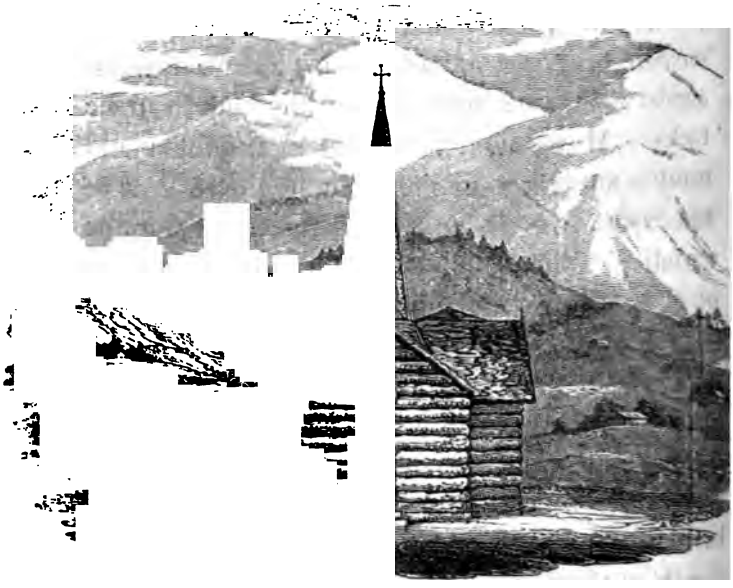
that series of beautiful landscapes which we have already so often described, in following the course of the *Louven*. In fact, the river here did not present itself with its usual effect; being, at this season, full of shallows and sand-banks, which, by dividing its current into several separate streams, diminish its general grandeur. The Church of *Elstad*,



placed in a commanding situation upon the *eastern* side of it, presents an object highly picturesque, from whatever point of view it is

regarded. In the style and materials of the architecture, these wooden churches remind one of *Switzerland;* and many customs in which the two countries seem to agree have been already noticed. There are many circumstances in which the features of the landscape are in both countries the same; but in *Norway* a finer effect is produced by the abrupter elevation of the mountains, the bolder character of the precipices, and the varying features caused by a mixture of green pasture and cultivated fields, amidst towering forests and the most barren rocks. Mountains, with many a precipice and many a smiling settlement, amidst broken cliffs and rising woods, presented their innumerable varieties of form, and colour, behind the Church of *Elstad*, as we were engaged in making a hasty sketch of this building; one of the most inadequate to represent the real scene, which we have yet ventured to introduce; because wanting all the characteristic touches necessary to delineate every rude and fantastic form, every brilliancy of light and colour, the breadth and depth of shadow, the hoary rocks and glittering heights, "all that the mountain's sheltering bosom shields," and all the dread magnificence of Nature.

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Leaving *Elstad*, we had to climb one of the mountains that surround the valley; and we had no sooner gained the summit, than another valley, not less enchanting, presented itself: and this succession of beautiful landscapes, characterizing all the country in the descent from *Dovrefield*, is exhibited to the traveller the whole way to *Christiania*. Well, therefore, may it meet with the encomiums that have been lavished upon it by every foreigner of taste that has yet visited this hitherto-neglected land. The river, now widened, had formed itself into a lake, which soon afterwards, extending more than seventy *English* miles in length, is called the *Miösen Söe*. Our carriage broke, upon this mountain; and we walked to *Lösnes*. About half-way we passed over a remarkable bridge, thrown, with a degree of boldness that quite astonished us, across a fearful chasm, at the bottom of which rushes an impetuous cataract. An inscription placed upon this bridge, mentions the history of it, in the following words:

Lake *Miösen*.

Lösnes.

Remarkable Chasm and Bridge

TROMSEBROEN I RINGBOE
OPBŸGET IGIEN AF NYE I
AARET 1791.
DEN LIGER 45 ALEN HOŸT
FRA WANDES OVERFLADE.
SAMME BROE HOLDES FOR AT
WÆRE DEN SOM I SNORRO STURLESEN
KALDES IN RINGEBROE HVILKEN HERTUG
SCHUULE PASERACTA
OG HANS KRODE HÆST BLEY
SCHUDT UNDER HAM DA HAND
EFTERATT ULŸKKES I ET SLAG WED
OPSLOE VILDE
FLŸE OVER TIL TRÖNHIEM.
DU REISENDE SOM WANDRER HER BETRACT NATTURENS UNDER
AGT NÓYE PAA GUDS GIERNINGER, DU SEER DEM ALLE STUNDER
HAN HAR BEREDET VEŸ OGE STÜ PAA LAND PAA VAN MED MEERE
AT MENESKER KAN VANDRE FRIT VOR
GUDE SCHEE TACK OCH ÆRE.

This inscription is written in the *Norwegian* language, which is neither *Danish* nor *Swedish*, but resembles the former more than the latter. It was evidently the work of some illiterate person, if we may judge from its orthography, &c. The last lines were intended for poetry, but of a very humble kind. No attempt, therefore, will be made to render these lines into verse, but merely to translate the whole literally.

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Translation.

TROMSEBRIDGE IN RINGEBROE
BUILT AGAIN ANEW, IN
THE YEAR 1791.
IT LIES 45 ELLS HIGH
FROM THE WATERS SURFACE.
THE SAME BRIDGE IS HELD TO
BE THAT WHICH IN SNORRO STURLESEN
IS CALLED (*said to be*) IN RINGEBROE, WHICH DUKE
SCHUULE PASERACTA
AND HIS WHITE HORSE BLEY
BEAT DOWN UNDER HIM WHEN HE
AFTER HAVING BEEN SUCCESSFUL AT THE BATTLE AT
OPSLOE WISHED
TO FLY OVER TO DRONTHEIM.
THOU, TRAVELLER! THAT WANDEREST HERE, CONSIDER
NATURE'S WONDERS;
THINK DEEPLY ON THE WORKS OF GOD; THOU SEEST THEM
EVERY HOUR:
HE HATH PREPARED ROADS AND PATHS ON LAND, ON
WATER, WITH MANY MORE THINGS,
THAT MAN MAY GO SECURE.
TO GOD BE THANKS AND HONOUR!

At *Lösnes* we were informed that the skin of the *Cat-Goub* has not commonly sold for a higher price, in this country, than seven rix-dollars; although the lowest value set upon it by the furriers in *Hamburgh* equals one hundred. After

we left this place, we continued our journey in carts, until we came to *Stav*; and amused ourselves, upon the road, hunting the grey-squirrels, which are very abundant, and in seeing the surprising leaps they take, especially when they precipitate themselves from the tops of the trees. From *Stav* we proceeded to *Moshuus*, where there is a good inn. We found here a sort of cheese made with sugar in it. Birch boughs, and other young shoots, were heaped upon racks near the road, as winter fodder for the cattle. A careless observer of the wild exuberance in which vegetation appears throughout *Norway* might suppose that a considerable part, at least, of the productions of the forests is wasted; but this is not true. The industry of the *Norwegians* induces them to appropriate almost every thing to some useful purpose. Their *summum bonum* seems to consist in the produce of the *fir*. This tree affords materials for building their houses, churches, and bridges—for every article of their household furniture—for constructing sledges, carts, and boats—besides fuel for their hearths. With its leaves they strew their floors, and afterwards burn them, and collect the ashes for manure. The *birch* affords, in its leaves and tender twigs, a grateful fodder for their cattle, and bark for

Stav.

Moshuus.

Economy of the Natives.

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covering their houses. The bark of the *elm*, in powder, is boiled up with other food, to fatten hogs: sometimes, but rarely, it is used in the composition of their bread[1]. The flowers of the *Hæg-ber* flavour their distilled spirits. The *moss*, as a substitute for mortar, is used in caulking the interstices between their timber walls. The *turf* covers their roofs. A species of *Lycopodium* is employed in dyeing their woollen. Even the leaves, as they fall from the trees, are carefully raked together, and preserved, to increase their stock of fodder. At *Moskuus*, a mob of young men were collected before the door of the inn. They had been summoned for the purpose of being enrolled. After the age of fifteen, every *Norwegian* is considered as being in his Majesty's service; and once in every year an officer visits every district, to note down the names and to measure the heights of the young men: he also notices any alteration that may have happened in their growth, since the former year. These young men all appeared in their scarlet bonnets and best white coats; which dress is the costume of this part of *Norway*.

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(1) See *Pontoppidan's* Nat. Hist. of *Norway*, Part I. p. 139, Note. *Lond.* 1755.

Deviation from the King's Road.

A few notes, written as instructions for our route, by our friends at *Trönijem*, recommended it to us, after passing *Moshuus*, to cross the *Louven*, and to continue our journey on the *western* rather than on the *eastern* side of the *Miösen* Lake; as being a shorter and a better way. We found the road, however, on the *western* side, almost impassable, principally owing to the lateness of the season. Bad, indeed, must be the road by *Lille Hammer*, *Ringsager*, *Furnæs*, *Hoff*, and *Morstuen*, if it can possibly be worse than this which we pursued! After leaving *Moshuus*, we proceeded, by the king's road, as far as *Sunde*, where we crossed the *Louven*, by a ferry, in order to get to *Torsted*. Here we joined the new road which we had been advised to take.

Sunde.

Torsted.

Louven River.

It is a remarkable circumstance, that a river of such magnitude as the *Louven* should appear without a name in the very best maps extant of NORWAY. Even the perspicuous and accurate *D'Anville*, of whom it has been said that his *blanks* are not without instruction, has omitted the name of this river: yet the whole of the renowned *Guldbransdale* is owing to its impetuous torrent. *Pontoppidan* takes no notice of it; and a map quite disgraceful to geography, which is prefixed to the *English* edition of his

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work, has given with great inaccuracy these cour of the river, but affixes no name to it. This may be owing to the different appellations borne by this river, in different parts of its course. 'Near the *Miösen* it is called *Miösen Elv*. At *Lille Hammer*, where it contracts suddenly, it loses this appellation; it is then about as broad as the *Thames* at *London*; and higher up, towards its source, it often changes its name. This is owing to the different forms it assumes; being now an impetuous torrent, now a lake, as the valley through which it flows is expanded or contracted. Its shores, throughout its whole course, being formed by the bases of the mountains, nothing can be more beautiful than the prospects it affords. Below *Minne*, or *Minde*, at the southern extremity of the *Miösen*, it is always in the form of a river; and in the large map of *Norway*, by *Pontoppidan*, it is called *Vormen*, until this name also is lost with the river in the *Glommen*, the principal branch of which falls into the sea at *Frederickstad*.'

Difficulties of the Route.

We soon had occasion, in the badness of the road, to repent of the step we had taken, in leaving the old highway for this New Cut, as it is called. It rained during the whole day; and we were happy in finding a good inn at *Ronne*, where we determined to halt. Both *Torstad*

Ronne.

and *Ronne* are situate upon the *western* shore of the long *Miösen* Lake. We had flattered ourselves with the expectation, that, by quitting the king's road, we should have an opportunity of seeing somewhat more of the manners of the *Norwegians* who live remote from the public line of intercourse. The only perceivable difference in this route is, that the people are richer, and the houses better. Our accommodations at *Ronne* were excellent; but the improvement of a stove, instead of the more healthy and cheerful hearth with its blazing fire, was extremely unpleasant to us. In the small rooms where these stoves are introduced, we found that we must either dispense with its warmth altogether, or run the risk of catching cold by having the door wide open to admit the night air into the heated room, or endure almost suffocation, with the certainty of a head-ache, by keeping the room close while the stove is hot.

Interior of a *Norwegian* Inn.

The next day, *October* 11, they brought in a breakfast worthy of "the Land of Cakes:" we had coffee, and tea, and brown bread, and butter, and eggs, and the sort of cheese, scraped, which we before mentioned as being seasoned with sugar. The walls of the apartment consisted of bare timber, without any kind of covering: but the cupboards, the beaufets, chairs,

CHAP. VI.

and window-frames, were all painted, and the windows had large squares of glass. The inside of such a room afforded no bad criterion by which to judge of the progress of refinement and the state of things in the country: wretched engraved portraits, daubed with the most glaring colours, hung about the walls, together with small mirrors in gaudy lackered leaden frames, the tawdry manufacture of those wandering *Italians*, the natives of *Como* in the *Milanese* territory, who hawk these wares all over Europe. A kind of ornamental hanging of very coarse gauze is fastened over the windows in these houses, falling down on each side: it is placed for no other purpose than to make a display of finery, and of the tidiness of the housewife, in keeping it starched and clean. The rooms are well floored; and the ceiling, although of deal, is cased with planks neatly wrought. In the corner of these apartments, as we still see it often in *England*, there is generally placed a *beaufaîte*, or *beaufet* [1], with a glass door, containing their little stock of plate; a few spoons, a pair of sugar-tongs, and a sugar-pot, with some figure glasses, and old *China*

(1) Hence, perhaps, our word *Beefeater* (as applied to servants of the Crown), or *Beaufaîtiere*, a waiter at the *Beaufet*.

cups and saucers. *English* earthenware begins to find a place amidst these rarities: coffee-pots, and punch-bowls, and mugs, with pictured representations of jolly tars and their mistresses, inscribed with *English* patriotic or convivial sentiments, or exhibiting views of sportsmen sallying forth in cocked hats to the chase, reminded us of the old fashions of our *terra-cotta* manufactures. But that which more forcibly struck us, as a curious relique of past times, was the *Censer*, or *Incense-Pot*, of a *Roman-Catholic* Church, suspended near the stove, to supply the place of a chafing-dish for lighting tobacco-pipes. The people of the house said they had procured this *censer* from an old church, which formerly stood below the village, upon the shore of the *Miösen*. It spoke volumes to us; because it was impossible to view this once proud symbol of priesthood without connecting its fallen dignity with the sure fate of superstition. The antiquity of the rite for which it served almost entitles it to reverence. The first mention of a *censer* in History occurs in the oldest book of the world: the two sons of AARON[2] "took either of them his *censer*, and put fire therein, and put *incense* thereon, and

(2) LEVITICUS, c. x. 1.

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offered strange fire before the LORD." The same custom of burning incense in the Temple, which was ordained as "perpetual throughout all the generations" of the holy men of LEVI, was also common among the *Heathen* nations. The *Roman Catholics*, who have preserved many *Heathen* customs and superstitions, from which our own Church is not altogether free, continued the antient practice of burning *incense*; and have made the observance of it essential to their most sacred rites; preserving even in the form of their *censers* the customs of the earliest ages. Whosoever therefore, upon a single theme, would concentrate the whole of an inquiry calculated to illustrate the rise and progress of Superstition, and to develope the gradual working of REVELATION towards the final overthrow of this many-headed monster, may write "*the Adventures of a Censer*;" consigned, after all the periods of its splendour, to an obscure inn, in an obscure village, of this remote country; and telling, in its degraded state, the inevitable destiny of BABYLON, who hath "MADE ALL NATIONS DRINK OF THE WINE OF THE WRATH OF HER FORNICATION."

Svennes.

We left *Ronne*, and came to *Svennes*. Here we were conducted into a most excellent house, furnished, in a superb manner, with articles of

Extraordinary Adventure.

English manufacture, and luxuries quite strange to us in this part of our journey. The rooms for receiving strangers were carpeted, and adorned with *English* prints. We found a beautiful young woman, elegantly dressed, who was seated at a table, working tambour. Her mother and all her family also appeared handsome. We began to suspect, from the nature of our reception, a renewal of the singular adventure which befel us, soon after our arrival in *Sweden*, at *Sjoryd*, upon the Lake *Wener*[1]; and so it proved. After an excellent dinner, in which we were regaled wirh *Madeira* and *Burgundy*, our host said he would receive nothing in payment. What could this mean? Had we been conducted, by some *Tony Lumpkin*, to a Gentleman's house, instead of an inn? like *Goldsmith*'s travellers in "*She stoops to conquer*." As we put these questions to each other, desirous of an explanation, the owner of the mansion, observing our embarrassment, said, he had been already more than remunerated by our company, and pressed us to remain; adding, that we should confer an additional obligation upon him if we would prolong our stay. In this dilemma, all that we could prevail upon

(1) See p. 159 of the preceding Volume.

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them to accept was our umbrella; a thing the lady of the house luckily wanted. We then asked them to give us a commission for *England*. The answer of this kind family will excite a smile: "Send us," they said, "a *Gloucester* cheese:" and, in return, they promised us some *Gammel Orske* (perhaps more properly written *Gamla Norske*), the sort of cheese we have before mentioned, the produce of their own farm, which was one of the largest we had ever seen. Our host invited us to inspect his *cow-house*, a curiosity then perfectly new to us; although such establishments have since been introduced into *England*. It was as clean as the chambers of his dwelling; with stalls on either side of a long room, capable of containing sixty cows, the number then present, besides twenty horses, and sixty sheep. The stable for the horses was above the *cow-house*, and as clean as the rest. In lofts above the horses he kept his hay and corn.

Cow-house.

Glass Manufactory.

Near this farm there is a *glass*-manufactory, belonging to the Crown: it is farmed out to individuals. The brother of our host rented it of the person who superintends all the glass-works in *Denmark* and *Norway*. We visited the manufactory. The workmen were then employed in blowing green-glass

wine-bottles, and cylinders for window-glass, which are afterwards rolled out into square plates. The produce of this manufactory is sent to *Christiania*, to be exported first to *Copenhagen*, and afterwards to the *East Indies*. The glass seemed to be clear and of a good quality[1]; but the Director told us it was much inferior to *English* glass. An *English* workman had lately constructed for them a furnace, made after the model of those used in our own country.

Throughout the course of the *Louven*, and upon the shores of the *Miösen* Lake, a sufficient quantity of corn is produced for home consumption, and some also for exportation; but in times of scarcity, corn is brought from *Christiania*. As we journeyed from *Svennes*, by an excellent road, to *Svee*, we saw the corn shocks, and in some places the uncut corn, still standing. We could not say that a *yellow* harvest gladdened the plains; for the corn which had been cut, and that which yet remained for the sickle, was all of it *green*. That which had been cut, remained heaped upon upright poles,

Svee.

Appearance of the Harvest.

(1) Dr. *Thomson* says of the *Swedish* glass, which is manufactured in the same way, that objects appear through it in their true places; so that it has all the advantage of mirror-glass, without being so high-priced.—*See the valuable "Travels in Sweden" of Thomas Thomson*, M. D. *p.* 40. *Lond.* 1813.

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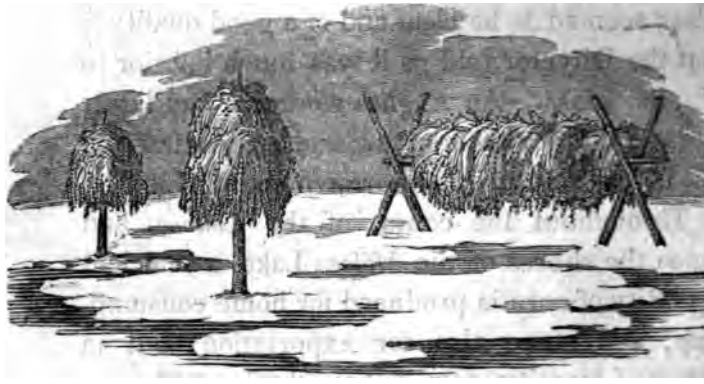
and upon racks, to dry; and as we proceeded farther, the appearance of a harvest thus suspended above fields that were covered with ice and snow afforded a very curious sight.



Views of the *Miösen* Lake.

We were delighted with the superb views which the *Miösen* exhibited. It reminded us of the Lake *Windermere;* because the cultivated fields, rising gradually from the water's edge, distinguish it from the generality of the *Norwegian* lakes; and these, constituting one of its principal beauties, give it a resemblance to *Windermere*[1].

(1) On the opposite side of the Lake is *Ringsager*, famous in *Norwegian* history for a decisive blow struck by *Olaf*, the saint and king, against the Pagan Princes; and which raised him, in a moment, from an almost expelled monarch, to become once more the Autocrat of all *Norway*. The particulars are cited from the *Norwegian* annals, by *Von Buch*. (*Travels*, p. 83.) The severity and tyranny with which *Olaf* endeavoured to establish Christianity in the valleys, and persecuted the Pagans,

The prospect of an extensive harvest and large tracts of standing corn, with intermingled villages and churches, is everywhere presented to view, until, in the distant perspective, they are lost amidst woods and mountains. We had this kind of scenery, and these views of the *Miösen*, not only in all the way from *Svennes* to *Svee*, but also as far as *Hund*, a distance equal to twenty *English* miles, at the least. From *Hund* we descended to a bridge in the road to *Brelie*, where we saw a very fine cataract. The perpendicular height of the fall itself was not great; but the body of water was considerable; the rocks about it black, craggy, and massive[2]; and the force of the torrent so impetuous, that it

Hund.

Brelie.

Cataract.

Pagans, at length roused five of the petty kings of the country to regain their freedom, and to expel him. Röræk, of *Hedemarcken*; Ring, of *Toten* and *Hadeland*; Dag, the ruler of *Walders*; and Gudbiod, a prince in *Guldbrandsdalen*; united their forces at *Ringsager*, to concert an attack against King *Oluf*, with very superior numbers. The king heard of their arrival at *Minde*, where he was stationed with only 400 men. He speedily manned several vessels; ascended the *Miösen* hastily, in the dead of the night; surprised the kings in their beds at *Ringsager*, took them prisoners, and thus, with one blow, destroyed their well-concerted plan. Ring and Dag were banished from the country; Gudbiod was deprived of his tongue, and Röræk of his sight.

(2) These rocks are of black limestone, alternating with thin strata of *clay-slate*. Upon the opposite side of the *Miösen*, according to *Von Buch*, who pursued the other route, by the king's road, the rocks consist of well-characterized *greywacke*, especially about the arm of the lake which reaches towards *Fangsbierg*. At *Fangsbierg* he saw *greywacke*, several hundred feet in height.—See *Von Buch's Travels*, p. 81. *Lond.* 1813.

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Roholt.

In our first stage from *Bandelie*, *October* the *thirteenth*, about a quarter of a *Norway* mile before we arrived at *Roholt*, we again joined the king's road, and found it execrable. The other road, although we had complained of it at the beginning, was much better. Just at the junction of the two roads there is a large *iron-foundry*. Afterwards, the road became almost impassable: our little phaëton was nearly buried in deep holes and mud. When we reached the end of the second stage at *Dragvold*, we hired an additional pair of horses. The rainy season had begun; but the weather was in other respects mild. The mercury in *Fahrenheit's* thermometer, this day at noon, stood at 53°. The corn here was uncut. From *Dragvold*, through *Moe*[1], to *Schesmoe*, was a journey only of two *Norway* miles; yet this was all we could accomplish, owing to the state of the roads. The country about *Moe* and *Schesmoe* is much cultivated. The inn was bad at *Schesmoe*, and, being *Sunday*, the men and women were all drunk. Some gentlemen politely ceded to us

Dragvold.

Moe.
Schesmoe.

Strange observance of the Sabbath.

(1) *Moe* is a name which very frequently occurs in *Norway*. There is a place with the same name on the eastern shore of the *Miösen*. By a note in *Von Buch's Travels*, (*p.* 70. *Lond.* 1813.) we learn, that "its original signification is '*a small sand-hill*,' which can be distinguished between mountains and rocks."

the room in which they were sitting. Throughout *Norway*, as in *Sweden*, the inhabitants play cards upon the day of the Sabbath; and balls and other revels are more frequent upon Sunday than upon any other day.

Execrable state of the Roads near the Capital.

October the *fourteenth*, having ordered four horses for the phaëton, we set out for CHRISTIANIA. In our first stage to *Romsaas*, as in the second, we found the roads in such a state, that we almost despaired of making any progress. Our harness was continually breaking; and the poor horses, floundering in the deep mud, were again almost buried. Rain fell incessantly the whole way. *Red granite*, of a beautiful grain and texture, appeared in loose fragments by the way-side. In going from *Romsaas* to *Christiania*, our difficulties increased: the road, though wide and capable of improvement, is by much the worst in all *Norway*. About half-a-mile from *Christiania*, as we descended towards the town, we had a prospect of the CAPITAL of *Norway*. Its appearance, although neither so grand nor so picturesque as that of *Trönjem*, was yet very striking, owing to the throng of shipping before the town, and the number of islands lying off, in its extensive bay. As we entered the streets, we observed that they were crowded with beggars: a number of miserable objects beset the door of the inn to

Arrival at *Christiania*.

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which we were conducted. There is less of a *Scandinavian* character in CHRISTIANIA than in any other town of the *North*: the houses are built of stone; *log-houses* being confined entirely to the suburbs: the streets, intersecting each other at right-angles, are wide and straight. The drivers of our post-horses took us to *Thom*'s, an excellent inn, provided with every thing necessary to a traveller's accommodation, and where the charges were very reasonable. We had the happiness to find here Letters from *England*, giving us the first intelligence of our absent friends which we had received since we embarked for the Continent. The most difficult part of our undertaking seemed now to be accomplished: the rest of our journey, through *Sweden* and *Finland*, into *Russia*, lay over a more beaten track. We therefore fixed our residence, for a short time, in *Christiania*; determined to make excursions into the neighbourhood, and to visit the silver-mines of *Kongsberg*. As we were meditating upon the satisfaction this scheme would afford, a bustle at the door announced the entrance of a very great man; no less a personage than the Chamberlain BERNARD ANKER himself; who came to welcome our arrival; conducting two English Gentlemen, Messrs. *Kent* and *Jarret*, whom he kindly introduced to our acquaintance.

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CHRISTIANIA.

Situation of Bergen *with respect to the rest of* Norway—Bernard *and* Peter Anker—*Visit to the Governor*—*A Rout*—*Barbarisms*—*Army Regulations*—*Laws respecting Marriage*—*Climate*—*Nobility*—*Character of* Prince Frederic—*State of the Army*—Danish *Policy with regard to* Norway—*Domestic Economy at* Christiania—*Hospitable Entertainment*—*Anecdotes of the* Emperor Paul *of* Russia—*Antient* Teutonic *Customs*—

Lamentable

Lamentable Conduct of Great Britain *towards* Norway—*Ceremonies of retiring from Table—Magnificent Villa of* Peter Anker—*His Collection of Pictures—Vast Establishment—Prejudices of the* Norwegians *respecting Food—Courts of Judicature—Commerce of* Christiania—*Population—Manners of the* Christianians—*Comparison between the Inhabitants of* Trönÿem *and* Christiania—*Effect of Foreign Intercourse—Institutions for the Poor—Character and Exemplary Conduct of the two* Ankers.

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We had now traversed nearly the whole of Norway, from the North to the South; but had seen nothing of its western province of *Bergen*, nor of the city of that name. Yet this being the most populous town of the whole country, we were desirous of obtaining from the inhabitants some information respecting its present state; and for this purpose we introduced the subject in our first conversation with Mr. *Anker*; telling him that the people of *Trönÿem* seemed almost as ignorant as we were, of every thing relating to *Bergen*. "It is precisely the same with us in *Christiania*," said he: "*Bergen* is less known to the inhabitants of this place than *London* or *Paris:* in fact, we hardly consider it as forming a part of our country; or as inhabited by *Norwegians*. The people of *Bergen* are, for the most part, foreigners, principally

from *Holland;* persons who have settled there for trade; buying and selling the fish taken by the natives of the northern parts of *Norway.*"

Situation of *Bergen* with respect to the rest of *Norway.*

We soon forgot *Bergen,* and turned our inquiries towards *Christiania,* whose representative we thought we beheld in this high-spirited and intelligent man. He had travelled much, and combined, in his manners, all the best characteristics of our own countrymen, with a good deal of *French* foppery, and that native heartiness of a *Norwegian,* which knows no bounds to its hospitality, but, as in *Sweden,* will carry its kind attention to strangers even to excess. It seemed, in this short interview, as if his whole property were to be at our disposal. "My carriages and horses, Gentlemen, are at your service, so long as you choose to remain with us. Our good friends here, Mr. *Kent* and Mr. *Jarret,* will tell you, that our parties in *Christiania* are pretty well attended: there is nothing stiff or formal in them: we meet, chat, play at cards, smoke, sing, and drink *Burgundy-bishop:* every one comes and goes as he likes. You will be expected this evening at the Governor's: his Lady is a very pleasing woman. If you go to his house, I shall have the honour of introducing you to several families, and of taking you afterwards with me to a rout, where you may amuse

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yourselves after your fatigues. To-morrow, Mr. *John Collet* will expect you to dine at his house: there you will meet many of the inhabitants of this place; and, among others, Dr. Müller, a man of letters, who married an *English* Lady." Being Chamberlain to the King of Denmark, *Bernard Anker* wore the *Danish* court badge,—a large key and riband, fastened to the button of his coat behind. In his person, he was above the common size, of athletic form, and well-looking. His hair, decorated in the old *Parisian* taste, was highly frizzled and powdered: and, during the whole of his conversation, he stood opposite a large mirror, attentively surveying and adjusting the different articles of his dress: but in all this there was nothing of mere vanity, or of affectation; it was evidently what, among the *French*, would have been once considered the ease and gaiety of a well-bred fashionable beau; although, to *English* eyes, such an air and manner might have been considered as bordering upon those of the *petit-maître*. However, we soon found, in the conduct of this exemplary individual, a lesson against judging too hastily from outward appearances. His heart was possessed by the best qualifications of human nature; and his mind, well stored with intelligence, and full of resources, poured forth, in

every conversation, such general knowledge of the world, and of the springs of human actions, whether in court-cabinets or in private life, as made all who became acquainted with him eager to join his company[1]. His character is so intimately connected with the history of *Christiania*, and of *Norway*, that no traveller, who has published an account of the country, during his life-time, has neglected to attend to it. The noble use he made of his princely income, and of all his vast means of doing good, in the encouragement he gave to every measure likely to promote the interests of the nation; the example he set to those around him, of domestic economy, and of social order; the public donations he made,—in all of which he was aided by a corresponding disposition in the benevolent conduct of his brother,—have caused the names of *Bernard* and of *Peter Anker* to live in the recollection of the *Norwegians*, associated with

Bernard and Peter Anker.

(1) "His talents were frequently exercised, and his great wealth employed, in acts of beneficence to his fellow-citizens. He presented the Military Institution at *Christiania* with a spacious house, and increased their funds by a donation of five thousand dollars. THE NEEDY NEVER SUED TO HIM IN VAIN; and, as his liberality was unbounded, the inferior classes looked up to him with confidence for protection and support. * * * * Like the illustrious *Lorenzo de Medicis*, he was a great merchant, and capable of being a great statesman: he entertained an ambassador with as much ease as he would a factor." See *Wolff's Northern Tour, pp.* 99, 100. *Lond.* 1814.

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all that is praise-worthy among them;—as "rich men, furnished with ability, living peaceably in their habitations; honoured in their generations; the glory of their times;" when we find it written in Sacred Scripture, that "a merchant shall hardly keep himself from doing wrong," be it always remembered, that the *Ankers* were of this class in society. "In the waves of the sea, and in all the earth, and in every people and nation, they had gathered to themselves a possession;"—and the secret of their prosperity was divulged in the cheerful countenances of their tenants and dependants; in the comfort and the gladness which they so largely diffused; but especially throughout all the dwellings of the poor.

Visit to the Governor.

In the evening we visited the Governor; and found an assembly, consisting of some of the principal people of the city. The gentlemen were engaged playing whist, with enormous tobacco-pipes of *Meerschaum* in their mouths,

Barbarisms.

(1) "It is highly gratifying to read, that when the *Island of Zealand* was invaded, and taken possession of by a *British* army in 1807, and a country-seat belonging to the Hon. *Carsten Anker* was entered by a detachment of the Guards, such was the respect shewn by our troops to its hospitable owner, that his mansion remained unmolested during the whole time they remained in its vicinity." See *Wolf's Northern Tour*, p. 175. *Lond.* 1814.

smoking in the presence of the women, and spitting upon the floor. In this respect the inhabitants of *Trönijem* were more polite; as they neither smoke nor spit when ladies are present. The Governor told us he usually smoked about twenty pipes a day. But there is another custom, prevalent throughout *Norway* and *Denmark*, and some other parts of the continent, which in our country would be deemed almost too low for an alehouse: it is that of marking the points of a game at cards with chalk upon the table. A piece of chalk was laid for this purpose upon every card-table at the Governor's, and used both by ladies and gentlemen: the same practice is said to exist even at the *Danish* Court. These are trifling barbarisms; but they are nevertheless barbarous; and must be viewed, in any country, as among the marks of a want of refinement: they tell us, at a glance, of the state of the society in which these indications appear. A *German* lady spits upon the floor of her apartment, even when it is covered by an expensive carpet; and may attempt to justify such a breach of good manners, by urging that it is a practice tolerated even at Court. *English* Peers, and *English dandies*, aping foreign customs, have sometimes imitated such examples; but

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nothing can reconcile them to the canons of civilization[1].

A Rout.

From the Governor's we went to a rout and supper, at which was convened all the beau-monde of *Christiania*. The rooms were crowded with a variety of company; among which we observed several officers of the army and navy, and a number of beautiful women in elegant and fashionable dresses, exhibiting the latest modes of *London*. These evening parties, being held in routine at the different houses, had become so expensive, that Mr. *Anker*, and others, prevailed upon seventy of the principal inhabitants to consent to an agreement, which they all signed, that certain rules of economy should be observed;—that no person should be at liberty to exceed the stipulations made for every evening's entertainment;—that only a certain number of lustres should be allowed in each apartment, and that the number of wax-

(1) The habits of the *French* women are in this respect abominable. "Some of their habits," says *Henry Matthews*, in his most interesting Volume of Travels, "must be condemned as shockingly offensive.—What shall we say of the spitting about the floor, which is the common practice of women as well as men, at all times and seasons, not only in domestic life, but also upon the stage, in the characters of heroes and heroines, even in high imperial tragedy?"—*See the Diary of an Invalid, &c. by Henry Matthews, Esq. A.M. Fellow of King's College, Cambridge, p. 425. Lond. 1820. Second Edition.*

candles should be limited for each lustre;—that, instead of an expensive supper, a small collation should be prepared, to which the guests might go, without requiring any person to wait upon them. These new regulations explained to us the meaning of a sight which would otherwise have appeared remarkable; namely, a number of large chandeliers and sconces, which, in the different apartments, were all filled with wax-candles, but not lighted. Our reception was, as usual, of the most hospitable nature: but in *Christiania* a welcome had been prepared for us, by the previous intercession of our two friends, *Malthus* and *Otter*, who had visited this place before our coming; and it was heightened by the kind offices of the two *English* travellers to whom we had been introduced in the moment of our arrival, Messrs. *Kent* and *Jarret*. With these gentlemen we soon became intimate: their amiable qualities had already rendered them popular among the inhabitants, and we found great advantage in their society. The dancing began with the waltz, soon after nine o'clock; but the company had been coming in since six, and formed really a brilliant assemblage, particularly the ladies: there were full as many handsome women, in proportion to the number, as would be seen at

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an assembly in *England*. Indeed, to English eyes, there was nothing foreign in the appearance of the company: the manners, abating only the smoking and spitting, were those of our own country; and we found the English language very generally understood. From the Governor and Mr. *Anker* we learned that a change had just taken place in the laws relating to the enrolment of the peasants for the army. Every man in *Denmark* and *Norway*, born of a farmer or labourer, is a soldier. Those born of sailors, are sailors. Formerly, the officer of the district might take them at any age he pleased; and he generally preferred a man from twenty-five to thirty, before those that were younger. After being thus taken, the man could not marry without producing a certificate, signed by the minister of the parish, that he had substance enough to support a wife and family; and even then it was at the will of the officer to let him marry, or not. This, and the uncertainty in respect to the time of being taken, had hitherto operated as a strong preventive check to population in *Norway*; and accounts for its increasing so slowly, although the people live so long. No man could consider himself as perfectly free to marry, unless he had solid possessions, till he had served his time; which, from being taken

Army Regulations.

Laws respecting Marriage.

sometimes at thirty, might not happen until he was forty years old. We took some pains to inquire, whether the certificate of having enough to support a family were a civil or a military institution. From what we could learn, it appeared to be entirely military; and to have arisen from the fear, that the children of soldiers might fall upon the public, or starve. It had however, without doubt, a very strong influence, in a civil point of view; and was, in fact, the cause why the lower classes of people in *Norway* were in a much better state than could be expected from the barrenness of the country. These laws were now at an end. The liberty of marriage was allowed, without any certificate or permission of the officer. All the young men of twenty were taken first; and if the number were not sufficient, all of twenty-two, and so on, were added;—it being no longer at the option of the officer to select the men at what age he might think proper. Formerly, any person under thirty-six might be taken; and the older were generally taken first. One proof that the certificate was entirely a military institution, is this; that a peasant, before he was taken, might marry without a certificate: but then he exposed his wife and family to the danger of being starved, if he were taken,

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unless he could leave behind him a sufficiency for their support; and it was probable that parents would not allow their daughters to marry, without some prospect of this kind. The Governor disapproved of the new regulations: he said that the peasants would now marry without any prospect of being able to maintain a family; and the consequence would be, that more would be born than the country could support. He said that the old laws on the subject had lately been very loosely enforced: the effect of which was, an evident deterioration in the morals of the people. Many children died before they attained the fifth year of their age. He thought that the age of twenty, although well suited to such a country as *France*, was too young for a *Norwegian*; because the northern peasant is much later in attaining maturity. All males born in the districts along the coast of *Norway*, and all in the inland towns who get their living by fishing, are enrolled as sailors; but all born in the inland districts of the country, who subsist by other pursuits, are soldiers. Those born of tradespeople in the towns are free; except with regard to the services they are obliged to perform as burghers.

Climate.

Speaking of the climate, the Governor said, that they had "*huit mois d'hiver, et quatre mois*

de mauvais temps." We had heard the same observation made at *Copenhagen;* but, judging from what we had seen ourselves, we certainly should not have made the same remark. He said, that during the whole summer he had been only four days without his great coat. A reference to the account we have regularly kept of the state of the thermometer will best shew what the temperature of the climate really is.

Nobility.

With Mr. *B. Anker* we had a long conversation on the subject of the nobility. He said, that some time ago a proclamation had been issued by the Court of *Copenhagen*, that all persons claiming the rank of nobility should prove their just title to that rank by regular descent. Mr. *Anker* proved his descent from a noble *Swedish* family; but they made some difficulty in granting to him the arms of that family, as he had not himself a title, and the arms interfered with some of the *Danish* titles. However, he gained his point at last, and obtained the coat of arms. About three years since, without making any application, he received the key of Chamberlain, which gave him the highest rank in *Norway*, even above that of the Governor. His brother, Mr. *Peter Anker*, had the rank of General, wore a General's uniform, and was Intendant-General

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of the Roads in *Norway*. There are but two titled estates in all *Norway*; but there are many other estates that have privileges of nobility attached to them. Any person nobly born may purchase any of these estates, and possess all the privileges belonging to them; but a person not nobly born cannot purchase them. A commission from the King confers the same privilege as noble birth. An Ensign might purchase a nobleman's estate, and possess all the rights and honours attached to it. All civil offices, as in *Russia*, have a certain military rank. The title of Count gives a certain rank in the army; but a simple Ensign takes the precedence of a nobleman born, with the largest possessions, if he have no title, and hold no civil office from the Crown. In a scale of the different gradations of rank shewn to us, we observed that it consisted of six or seven different classes. The rank of Chamberlain was in the same class with that of the Major-Generals of the army, but it was at the head of this class. In the class above this, were the Generals, Admirals, and Counts possessing estates annexed to their titles; those without, being in the class below.

Character of *Prince Frederic.*

During this conversation with Mr. *Anker*, the character of the Prince was started. Mr. *Anker* observed, that his character was not well known,

and seldom justly appreciated. He believed him to be the most moral man that could well exist, and of the most strict and impartial justice. He was not indeed generous; but this could hardly be attributed to him as a fault, arising, as it did, from the very small sum which he required for his own expenses; not more than 12,000 dollars; a little above 2000*l.* a year. He never would confer the title of nobility, and was always extremely cautious in granting any office or favour of any kind. His fear of being partial sometimes carried him too far, and prevented his granting any thing, even to a person whom he might consider as worthy of his acquiescence. He was very silent in company, and partly, as Mr. *Anker* believed, from the fear of having some proposition made to him, or some favour asked. If a man had once made a request of this nature, the Prince[1] seldom spoke to him afterwards, although he might still consider him as an object of regard. At *Copenhagen* he is unpopular; because the people about the Court are all poor, and all beggars. Mr. *Anker* seemed to think that he

(1) Now *Frederic* VI. King of *Denmark*, born *January* 27, 1768; married in 1790 to Princess *Sophia Frederica* of *Hesse Cassel*; by whom he hath issue two daughters.

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had good natural talents, and a good memory; but that his education had been much neglected, of which he was fully sensible, and consequently complained of it himself. Unfortunately, he was not fond of reading, which prevented him from repairing what was deficient. He knew no favourite whatsoever. Count Bernstorff had been erroneously considered as a favourite, possessed no particular influence: he was only Secretary of State, and not of the Grand Council; and ought by no means to have been considered as the Prime Minister. The liberality of the Prince in his administration of government, and his contempt for libels, proceeded from a right principle, and from a consciousness of the rectitude of his conduct; added, perhaps, to a sage foresight, which has always convinced him that the wisest and safest plan, in all such cases, is to let these things alone. A libel had been prosecuted by one of the courts but a short time before; and the consequence was, that the book, which had been before neglected, rose into notice, and sold in the most rapid manner; three or four editions of it being successively published.

A young officer entered into conversation with us, who spoke *English* remarkably well, and not much to like the army; mentioned

the brutality, and want of education in the greater part of his companions; and expatiated with much feeling upon the starving condition of the inferior officers, and their forlorn hope of promotion. All officers, except for some particular merit during actual service, rise by seniority; which makes promotion, during peace, extremely slow. An education, during four years, at least, at the military academy either of *Copenhagen* or of *Christiania*, is requisite to the obtaining of a commission; and afterwards, those who are not noble often serve for some years as non-commissioned officers, before they can hold a commission. He said there was hardly a Captain in his regiment that was under sixty years old; and seemed to think that the Prince, with all his attention to the army, had not done much to increase the comforts of the soldiers and officers.

The next day, *October* the fifteenth, we called upon Mr. *B. Anker*, and saw his magnificent house. We found him in his morning-gown, sitting in his study, surrounded by books and papers. He related to us the difficulties he had encountered, during his applications to the Court of *Denmark*, to obtain a University for *Norway*; and he began to be aware that it was a measure to which the *Danish* Government would

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never accede. He was not even allowed to purchase libraries for the public use of the *Norwegians* in their own country. A *Danish* party exists in *Christiania*, which is also violent against the establishment of a University in *Norway*. The *Danish* policy is, to compel all the young students to resort to *Copenhagen*, and there to spend their money; whence they generally return injured in their principles and in their health[1]. Mr. *Anker* had visited almost all the more civilized parts of *Europe*, and spoke foreign languages with great fluency. He was well read in the fine arts, and had formed a valuable collection of books and pictures. Among the most valuable of the latter, we were shewn some designs by *Le Brun*, and some remarkable proofs of the laborious exactness and minuteness of execution characteristic of the *Flemish* School, in a series of pen-drawings done by *Orlacht* of *Anvers* in 1761. In Mr. *Anker's* library, public lectures were delivered to the young *Norwegians*, by himself and others. The following words were inscribed in large letters

Danish Policy with regard to Norway.

(1) "It was a line of policy which did not extend only to the students of *Norway*: all persons who had money to spend were thus allured to the capital; and although no one better understood, than *Bernard Anker*, the nature and ends of the decoy, yet he himself ended with falling into it." See *Wolff's Northern Tour*, p. 100. *Lond.* 1814.

over the door of this apartment: DOCENDO DISCIMUS. Here we saw a complete apparatus for philosophical and mechanical purposes, the work of *Nairne* and *Blunt* of *London*; astronomical instruments, globes, and a museum of antiquities, and of natural history, containing minerals, shells, &c. "I must send to *England*," said he, "for almost every thing: all the linen of my family is sent annually to *London* to be washed." And when we observed that the stock of linen must be very large to admit of such an arrangement, he added, "that it was absolutely necessary to have a large stock of every thing in *Norway*, and each man must keep it within his own stores." "We cannot," said he, "go to market, or to shops, as you do in *English* towns: here, those who would live handsomely must collect into their own warehouses, from all parts of the world, whatsoever they may have occasion for, from the flour of which they make their bread, to the beef, the pork, the poultry, and all the stores necessary for a whole year's consumption." This makes living in *Norway* perhaps more expensive than in any other part of Europe. Mr. *Anker* told us, that he had thirty servants upon his own establishment, and that his brother kept sixty. The fuel consumed

Domestic Economy at *Christiania*.

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upon his premises, for the number of different stoves, amounted to above four times as much as a nobleman's family would consume in *Copenhagen:* and we were rather surprised to hear him say that fire-wood was an expensive article, in such a region of timber. But horses constitute the article of heaviest expenditure to a gentleman in *Norway,* owing to the general high price of hay, which had been particularly scarce during the last spring. The common price of hay averaged about five pounds a ton; this year the price had been doubled; and indeed it could hardly be had for money. Mr. *Anker*'s stud amounted to twenty horses for pleasure, besides draught-horses; and he had eight or ten carriages. The great preparation for the year's consumption in *Christiania,* as in all the rest of *Norway,* is made in the autumn. The season of slaughter, for the supply of the whole winter, takes place in the month of *October;* and the number of cattle killed upon this occasion is astonishing. The smallest and most private families salt a certain quantity; but in the larger houses it is a work of peculiar exertion, especially for the mistress. To become a good *Norwegian* wife, a lady must absolutely be educated in *Norway.* The mistress of each family presides over all the autumnal hoarding

of provisions, and in person directs every operation. In one morning that we called upon Mr. *Anker*, eighteen bullocks had been slaughtered, and his stock was not by any means complete. Some of the meat is pickled; the rest dried. The fat is melted into tallow, and nothing wasted. Even the blood is saved.

Hospitable Entertainment.

We went, by invitation, to dine with another merchant, Mr. *John Collet*, at his country-seat; having brought to him letters of recommendation: and in writing an account of *Norway*, however trivial the description of a dinner may be in general, we should indeed be guilty of an omission, if we neglected to describe the sort of reception which we experienced beneath his hospitable roof. He had a very extensive farm to manage; holding nearly 400 acres of land in his own hands. He treated rye in the same manner that we do wheat; preparing the land for it by two or three other crops successively, so as to get a good crop of rye on the same land once in three or four years. His cows were fed, in winter, on turnips and carrots, preserved in cellars. Potatoes thrive remarkably well: they were introduced into *Norway* about thirty years ago, and were daily coming more into use. The price of labour, he told us, was one shilling in summer, and ten shillings in winter,

without victuals. His wife, a very agreeable woman, was reckoned a pattern for all the wives in *Norway*. We found a very large party already assembled at Mr. *Collet's* house, and, among them, Mr. *Anker*, and our friends Messrs. *Kust* and *Jarret*. Here we were introduced to Dr. *Müller*, a very intelligent physician, and a great mineralogist, who sate by us during dinner, and was very communicative upon all subjects relating to the country: he had married the sister of an *English* physician, and spoke the *English* language with great fluency. Such was the magnificence of the feast to which we had been invited, that it would hardly be possible for our own Sovereign to afford a more sumptuous entertainment. We had every delicacy of the country, and all the wines of *Europe*, together with every species of costly *liqueur* and confectionary;—yet every article had been brought forth from the storehouses of the family. A favourite beverage, called *Bishop*, was served in copious bowls of rich porcelain: it consisted of Burgundy and claret, mixed with sugar, spices, and Seville oranges. But, besides this, large goblets were continually handed about, containing Champagne, hock, hermitage, Cape, tent, sack, cherry, and Madeira. Port-wine, which had been twenty-three years in bottle, and of

excellent flavour, was circulated in decanters, with Burgundy and claret. According to the custom of the country, we remained many hours at table: but we did not wish to move; for the most cheerful conviviality, and the liveliest conversation, was maintained the whole time, without dispute or intoxication. The only anxiety, on the part of our host and hostess, arose from a fear lest their guests should not be as well fared, and as merry, as it was possible to make them. A considerable part of our mirth was caused by the anecdotes related of the Emperor *Paul* of *Russia;* at this time the subject of general conversation in most parts of *Europe;* and who was, without exception, the veriest State buffoon that barbaric power had ever elevated to a station in which, unfortunately for those around him, he could not be considered as contemptible. He had the means of doing mischief, and he largely indulged in them. However, being here remote from the rod of his vicious tyranny, the antics and the fury of this insensate fool were considered only as subjects of laughter; affording excellent amusement to those who merely heard of them: and we joined in the hearty merriment excited by the stories told of the *Scythian* despot, and of the creatures his favourites. The follies and

Anecdotes of the Emperor *Paul* of *Russia.*

absurdities related of *Paul* were without number. We may give, as specimens, only two instances. Almost every one has heard of his famous ukase against different articles of wearing-apparel. Nothing was more strictly prohibited in *Russia* than the wearing of pantaloons, trowsers, and shoe-strings. At this time, a vessel, containing the *Danish* cadets, arrived at *Cronstadt*. The Emperor despatched a messenger with orders to invite the commanding-officer of the ship, and all the young men, to his palace. The *Danish* officer replied, that, by the laws of *Denmark*, the youths under his care were compelled to wear trowsers, and shoe-strings instead of buckles; consequently they could not presume to make their appearance, at the *Russian* Court, in a dress prohibited by the Emperor. The next day an imperial ukase was issued, commanding all officers of the *Russian* navy to new-model their attire, and to appear dressed "*like the Danish cadets at Cronstadt.*"—But a little before, a servant belonging to the *Danish* ambassador at *Petersburg* had been knocked down by a *Russian* sentinel, in one of the public streets of the city, for daring to appear in pantaloons; and the new regulation took place while an explanation of this affair was actually pending between the two Courts. But, of all things

likely to irritate *Paul*, and to put his temper to the severest trial, there was nothing more effectual than a pair of black breeches. A foreigner being presented to him in a full suit of black clothes, the Emperor had much ado to refrain from kicking him out of the audience-chamber, and, making a motion with his foot to that effect, ordered the sable visitant to be instantly turned out of court. The *Norwegians* were among the objects of his aversion: but his dislike to them did not arise from their wearing black breeches, but from some indistinct rumours he had heard of their jovial *clubs*, and of the songs of freedom in which they indulged at their convivial meetings. The very word *club* was so connected, in his mind, with the club of the Jacobins at *Paris*, and other democratical associations, that he considered it as only applicable to revolutionary purposes, and, therefore, that every member of a *club*, of whatsoever nature it might be, ought to be considered as a reprobate, and interdicted from all communion with the inhabitants of "all the Russias."

Antient *Teutonic* Customs.

The *Norwegians* drink toasts with the solemnities of a public ceremony, mingling with them songs[1], as did all the ancestors and collateral

(1) Vid. Homer. Odyss. A. v. 152. Athen. Deipn. lib. I. p. 14. A. Lugd. 1657.

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branches of the *Teutonic* tribes. At Mr. *Collet's* table, we had the satisfaction of witnessing some of those old customs, which one grieves to see laid aside, because they characterize historically the distinctions of nations. The master and mistress of the house, rising from their seats, perform a brief recitative, as a preliminary song to the toast which they are about to propose. In these solemn airs the whole company joined; and they had a very fine effect; not being rendered the less interesting to us when we found they were the preludes to sentiments which Englishmen hail with enthusiasm. In this manner we drank "THE WOODEN WALLS OF OLD ENGLAND"—"BRITISH COMMERCE"—"RULE BRITANNIA"—"GOD SAVE THE KING"—and, with what grief of heart is it called to mind, as it stands written in our journals, and was so often reiterated from one end of the country to the other—"A PERPETUAL ALLIANCE BETWEEN ENGLAND AND NORWAY." No one, at this period, had even dreamed of the probability of an event which was to separate the inhabitants of the two nations, perhaps for ever. The links by which they were united were "the very bonds of peace, and of all virtue." Every feeling which animates the heart, and is the boast of an *Englishman*; which

Lamentable conduct of *Gt. Britain* towards *Norway*.

induced a native of *Great Britain* to sit down by a *Norwegian* as by his friend; were those which are most congenial to the inhabitants of *Norway*;—holy patriotism; manly courage; unblemished integrity; a sacred regard for all the duties which hold men together in society; the father to his child; the husband to his wife; the subject to his King; the creature to his Creator: and that Jesuitical policy, which, while it dissolves these ties, teaches that "it is lawful to accomplish a great good by doing a little wrong," is therefore disowned and scouted by every worthy inhabitant of these now divided countries.

Ceremonies of retiring from Table.

As soon as the company rise from table, it is customary to shake hands with the master and mistress of the house, and to make an obeisance; or, being upon an intimate footing with the family, to salute the fair hand of the lady who has presided. All present then adjourn to another room, where coffee is served. There is no separation of the two sexes, as in *England*; where a custom, more barbarous than any thing in *Norway*, enjoins that the ladies be expelled soon after dinner, and sent into a sort of solitary exile until midnight. In *Norway*, as in more polished circles of society upon the continent, both men and women retire together. The

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gentlemen then light their pipes. A clean pipe is seldom offered; and this want of cleanliness, connected with a custom in itself barbarous and uncleanly, is one of the few disagreeable things of which a stranger has to complain. The card-tables are never covered with cloth; and they are chalked all over, as at an ale-house. In playing cards, the game to which the better sort of *Norwegians* are most partial, is a species of *whist*, called *Boston:* it is in vogue all over *Scandinavia*, and is less simple and more hazardous than our common game of *whist*, at which they also play. Whatever the game may be, the stakes are always low. Gambling seems to be almost unknown in *Norway*, in polite company.

Magnificent Villa of *Peter Anker.*

Upon the following day, *October* the sixteenth, we had a still more sumptuous entertainment provided for us, at the stately country-seat, not to call it a palace, of Mr. *Peter Anker*, distant only three *English* miles from *Christiania*. We went to dine with him, accompanied by his brother. He received us with as much magnificence as any foreign Prince, but with all the hearty welcome and hospitality of his country, added to the splendor of a King. The suite of apartments was quite princely, and they were fitted up in the most elegant style. His gardens

were laid out in the *English* taste; and the situation of his mansion, upon the borders of a lake at the foot of a rocky mountain, gave to the whole an appearance of great grandeur. In the gardens we were shewn an old *Norwegian* dwelling, preserved as a specimen of what the *Norwegian* houses were two centuries before, with all its furniture, and other appurtenances, as it then stood. Upon the walls of this building we observed the names of many travellers who had visited the spot, and, among others, that of the late Mrs. *Godwin*, thus inscribed, with a pencil, near the door—"*Mary Wollstonecraft.*"

In the manners of Mr. *Peter Anker* there was something remarkably distinguished from the generality of his countrymen. His appearance, in the midst of the splendid scene over which he presided, was altogether that of the most accomplished potentate. Every part of his vast establishment was in itself a curiosity, and merited particular attention. He himself conducted us over it. "We shall pass through the kitchens," said he, "that *English* gentlemen, who are fond of neatness, may be convinced that what we have to set before them is dressed and served with cleanliness:" and certainly we never beheld any thing similar. The dinner was preparing in large airy apart

ments, where every thing was in the utmost order. Not a cloth was to be seen in the hands of any of the attendants, but what was perfectly white and clean, and of the finest linen. All the kettles and dishes and tables were polished, and without the smallest appearance of being soiled by use. One of the most pleasing sights in these lower apartments was the table spread for the poor: upon which, with the same degree of neatness as for his own family, all the pieces of broken victuals were collected, and set forth for distribution, into portions, according to the size of the different families for whose use they were appropriated. His stables and greenhouses were next exhibited; and everywhere we observed the same display of decent order and superior arrangement. In the greenhouses were pines, apples, melons, and peaches. We saw also the cellars, as storehouses, for preserving meat and vegetables through the winter. Every housekeeper lays in his stock of provisions in *October*. Returning to the grand saloon, we began to examine his collection of pictures, made by himself, at a great expense, during his travels in *Italy*. It filled several chambers, which, opening into each other, presented altogether such a series of apartments as one sees in the *Italian* palaces, and especially in

His Collection of Pictures.

those of *Genoa* and *Naples*. One room was entirely filled with original drawings of the old Masters; and these, instead of projecting from the walls, were let into them, and so glazed; which had a novel and pleasing effect. Of the drawings, and of the paintings, we shall mention only the principal, in a Note; it never having entered into our *Scandinavian* speculations to expect a *dépôt* of the Fine Arts so far towards the north[1].

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(1) DRAWINGS.

1. A Capuchin Friar, with Children.—*Paolo Veronese*; perhaps by his son, *Carletto Cagliari*.
2. St. Cecilia.—A most exquisite and undoubted work of *Raffaello Sanzio*. In this curious work of *Raffael*, the saint is surrounded with figures, grouped with matchless skill and effect. She is singularly represented as holding in her hands the pipes of an organ.

PAINTINGS.

1. Ulysses and Circe, by *Pompeo Battoni*, the rival of *Mengs*.—A large picture, with great coldness in the colouring.
2. Lot and his Daughters; (*Michael Angelo da Caravaggio*;) shewing the high degree of interest which this painter could give to the most vulgar forms, by his ideal tints of light and shade.
3. A Crucifixion; said to be of the school of *Guido*; certainly by one of the *Bolognese* masters, and a most valuable picture, of small size.—The effect of the *chiaro oscuro* is here scientifically set off, with all that magical power of colouring which the painters, who followed the *Caracci*, so marvellously displayed.

4, 5, 6. Select pieces by *Le Nain*, representing scenes of still life; vegetables, green-stalls, &c.

7, 8. Battle-pieces by *Bourgononi*.

9. Annunciation of the Nativity to the Shepherds of Judæa.—*Jacopo da Ponte*. Painted with all the vigour of the older *Bassano*, but with that monotony, and meanness as to the objects, into which this fine painter degenerated in the latter part of his life.

10. Some

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At dinner, Mr. *P. Anker* told us that he kept fifty cows, and consumed the whole of their produce upon his own establishment. When he was in *England*, he said, he had to complain of the great scarcity of cream which prevailed everywhere, even in the best houses. In *Norway*, a great quantity of cream is consumed by the inhabitants; but especially during the strawberry season, which lasts six weeks. They give the preference to the white alpine strawberry, and think their wild strawberries very superior in flavour to our garden strawberries in *England*. The horses of the country, though small, are remarkable for their strength and speed. He told us that a short time ago he possessed a horse capable of trotting a *Norway* mile, when

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10. Some pictures attributed to *Leonardo da Vinci*;—a name easily bestowed upon, and often given to, paintings which have been highly finished with a dry and stiff outline, without any of the real excellence of *Leonardo*.

11. Several works of *Gherardo della Notte*, and of *Sckalcken*; representing, as usual, night-scenes by candle and torch-light.

12. Portraits by *Denner*, purchased at very high prices: these were executed with all the laborious exactness and *fac-simile* touches which distinguish the highly-finished works of this master; in whose pictures, as in those of his wife and himself, even the pores of the skin are said to be visible.

In this list, only the most striking pictures have been noticed: nor would any such attention have been paid even to these, had they been found among the more frequented haunts of the Fine Arts. In the billiard-room we saw a complete set of *Hogarth's* engravings, and they were the very best impressions from his plates.

harnessed to a sledge, within a quarter of an hour. The peasants and poor of *Norway* will not eat rabbits: they fancy them too much like cats. It is, moreover, difficult to make them cultivate the potato where that vegetable has not been yet introduced; so bigoted are they to old habits in respect to food. This, however, is pretty much the case in all countries. Who could prevail upon an *Englishman* of ordinary circumstances to eat a rat[1], or a hedgehog? Yet these are acknowledged as affording delicious morsels in countries where the inhabitants are not liable to the same prejudices.

Prejudices of the *Norwegians* respecting food.

We had some conversation on the mode by which justice is administered in *Norway*. There are four principal courts of judicature; one in each government, in which the Grand Bailiff or Governor presides. From these, however, an appeal lies to the Supreme Court at *Copenhagen*. In the trial of every cause, a jury of six men assists, not chosen as with us, but for life. There is also, in every parish, a Commission of Conciliation, before which every cause must be

Courts of Judicature.

(1) An officer of the navy once told the author, that rats, caught on board our ships of war, and dressed as rabbits, are sometimes considered as good articles of food; and he confessed that he had often relished a roasted rat.

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stated, previous to its going into a court of justice: and it is the office of the commissioners to mediate between the parties, and, if possible, to compromise matters. The party refusing to abide by the opinion of the commissioners is condemned to all the costs, if it do not afterwards appear upon trial that he was in the right.

Mr. *Anker* spoke of the connection of *Norway* with *Denmark* as most fatal to the interests of the former. He mentioned, at the same time, the great attachment borne by the *Norwegians* towards the *English*, and their hatred of the *Swedes*. If *Norway* were connected with *England*, and the trade left perfectly free, it is thought it would soon rise to a flourishing state. This project was once held by Mr. *Pitt*; and among the *Norwegians*, with whom *Copenhagen* is considered as the sink of all the wealth of their country, it would not fail to meet with encouragement. Indeed, such were their feelings at this time with regard to our own country, that we had every reason to be convinced, if *Denmark*, as it was expected, had entered into an offensive alliance with *France*, the people of *Norway* were resolved to invite an invasion from *Great Britain*, and to have acted in concert with us against the *Danes*.

Norway imports annually 300,000 quarters of corn. Her principal exports are *deals* and *iron*. Mr. *B. Anker* possessed one hundred and fifty privileged saw-mills, situate chiefly in the *Glommen*, which runs to *Frederickstad*. Indeed, the port of *Frederickstad* was, for the most part, possessed by two merchants; Mr. *B. Anker* and and Mr. *de Rosencrantz*: the former of whom considered it as being more advantageous to him than all his other possessions, on account of the facility with which all the timber is floated. Those who have forests up the country, are obliged to transport the timber on sledges in the winter, which makes a great difference in the expense, and, moreover, causes the delay of a year. A saw-mill cannot be erected without a privilege from the King.

Commerce of *Christiania*.

The commerce of *Christiania* consists in the exportation of *timber, iron, copper, alum, glass, tar*, and *skins*. The value of the exports amounts annually to the sum of 150,000*l*. sterling. The *iron*-works of Mr. *Peter Anker* alone yielded annually ten thousand schippunds[1] of *iron*. The best *iron* which *Norway* produces comes from those works: they are at *Bærum*. The *deal planks*

(1) Six and one-third *schippunds* of *Norway* are equal to one *English* ton.

from *Christiania* are in greater estimation than any other: this arises principally from the great improvements made in sawing them, and in cutting the timber for the sawing-mills. The *Christiania* planks have all neat marks upon them, by which they may be known. Patent saws are used in cutting them; and no person is allowed to saw timber for exportation, unless the patent saws are used. The *iron* and *copper* works belonging to *Bernard Anker* are situate at the following places:—

Moss.—Iron-works, and a foundry for casting cannon, and for the fabrication of bar and rod iron, nails, &c.

Hakkedahls.—Iron-work. Here there is a most complete fabric for amalgamation, and the richest copper ore found in *Norway*.

Haddelands.—Copper-work.

Stukkenbrocks.—Mines, and copper-works, where there are very rich cobalt ores. These are situate eight miles from *Kongsberg*, in the parish of *Nummedahl*.

The annual imports of *Christiania* are valued at 100,000*l.* sterling. They are principally from *England*, and consist of cloth, stockings, *Norwich* camlets, hard-ware, lead, coal, &c. Add to these 100,000 barrels of corn from *Denmark* and

the *Baltic*, to the amount of 50,000*l.* sterling annually.

Population.

The population of *Christiania*, including that of the old town of *Opsloe*, where the Bishop of *Aggerhuus* now resides, and the small suburbs *Scherwiger*, *Grönland*, and *Fjerdingen*, amounts to 9000 inhabitants. The King of *Denmark* receives annually two millions from *Norway*; and of this sum he expends only 300,000, of which 250,000 are lavished upon the unprofitable silver-mines of *Kongsberg*. The population of all *Norway*, according to an estimate brought down to the present year, amounted to 970,000 inhabitants, in an extent of 322 *Norway*, or 2100 *English* miles, from the point of *Lindernæs* to *Wardöehuus*. The corn required for the whole country amounted to 600,000 barrels, at 2½ per barrel, or 1,500,000 rix-dollars, equal to 300,000*l.* sterling. The exportation of all *Norway* was estimated at nine millions of rix-dollars, or 1,800,000*l.* sterling, in addition to the profits she derived from the freights of a great number of ships.

When a stranger sees the magnificent dinners to which he is invited in this country, he naturally concludes that some rich market has been ransacked to procure for him an entertainment: yet not a single article has been purchased for

inhabitant of *Trönÿem* cannot be better described than in the language of one of our *English* Poets:—

> "An honest man, close button'd to the chin;
> Broad cloth without, and a warm heart within."

The man of *Christiania* is more a man of the world, and more of a beau: the respectable old custom of his forefathers is laid aside, and with it many of the qualifications which render a man amiable and praise-worthy. His language is more complimentary, and consequently there is less of truth in it. The native of *Trönÿem* gives you an invitation to his table, and you find it well supplied; but the supply is such, that you might find it there if you had not been invited: the stranger is therefore always welcomed, and with sincerity, because his arrival causes neither interruption nor inconvenience. On the other hand, the native of *Christiania* prepares a feast so magnificent, that his guest perhaps regrets he was ever invited where every thing tells him he is to be considered as a stranger; and even there an apology is made to him because he has not been provided with a more costly entertainment. The inhabitants of both the one and the other make their professions freely, and both are men of

generous feelings; but the profession on one side is sincere, and the proffered service marked by its obvious utility:—on the other, it has more in it of the mere *façon de parler* of a polished people; and the generosity shewn, however proper, is sometimes ostentatious. In venturing these remarks, from a due regard to correctness of delineation, no reflections are aimed at any individuals whose names have been already mentioned. The observations must be considered as directed towards a whole people, and in the full belief that the same people would subscribe to their accuracy. Something beyond mere temporary impressions attaches the author of these remarks to *Norway*, and to its inhabitants. Gratitude for the warmest hospitality, and the most generous kindness, might seem to call for nothing but expressions of acknowledgment and of praise; but it is a duty owing to those whom we esteem, to point out the channels by which evil is communicated to them, and their social welfare endangered. This danger arises from foreign corruption, foreign luxury, and foreign manners. May the best friends of *Norway* always find it peopled by true *Norwegians*; by the descendants of a race of heroes who were never enervated by vices of foreign growth

Effect of Foreign intercourse.

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—rank weeds, engendered in less healthful territories, and fostered by hotter suns! To what other cause, than to the intercourse with foreigners, can be attributed the change which a traveller finds in *Christiania*, as to the honesty of the lower orders? It has been already mentioned, as a remarkable fact, that we never saw a beggar in *Sweden*[1]; but *Norway* has many beggars, and *Christiania* is full of them. In the northern districts they are less numerous, but here they actually swarm. The very passages and chambers of the inn where we lodged were never free from mendicants. They would open the doors of our apartments without hesitation, and enter even into the bed-rooms. If they found any person within, they were clamorous for money: if not, they supplied themselves with whatever they could lay hold of as most portable. Some of them had the audacity to steal stockings belonging to our servants, from their bed-rooms, before their faces. These,

(1) "In passing through the country" (*Sweden*), "which has the character of being poor, one is surprised in never meeting with any beggars or miserable objects who demand or excite charity. The reason, as assigned by the *Swedes*, is, that there are hospitals for all such persons; and the poor, who might be expected to sue for charity, are supported by their own parishes. The same plan is in existence in *England*: why does it not produce the same effect?" *Dr. Fiott Lee's MS. Journal.*

again, are traits in describing national manners, which will not be quite acceptable in the sight of the *Norwegians;* but they arise from that mixture with the inhabitants of other countries, to which, as a place of foreign commerce, *Christiania* is rendered liable. The genuine native *Norwegian* is neither a beggar nor a thief. The consequence, however, of so much indigence, mixed with so much wealth, is a constant call upon the rich to support and maintain the poor. Nothing conduces more to keep the latter in a state of indigence than the institution of public poor-houses, however benevolent the views of their founders. *Bernard Anker*, the pattern in his own example of benevolence towards the poor, supported two houses of this description at his own expense; but then he wisely contrived that they should become houses of industry as well as of charity[2]. He eminently possessed that "voluntary and active charity which makes itself acquainted with the objects which it relieves; which seems to feel, and to be proud of, the bond which unites the rich with the poor; which enters into their houses; informs itself not only of their wants, but of

Institutions for the Poor.

(2) There were two asylums for orphans; one public, and the other private. Both were supported by *Bernard Anker*, and at his own cost.

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their habits and dispositions; checks the hopes of clamorous and obtrusive poverty with no other recommendation but rags; and encourages with adequate relief the silent and retiring sufferer, labouring under unmerited difficulties[1]." If ever there were a man in whose individual character every qualification had been combined, fitted to form the patriot, the statesman, the friend and guardian of society; the deliverer of the needy; the public benefactor; the patron of genius, of literature, and the arts; it was *Bernard Anker*. Nor let the tribute pass without rendering also a due regard to the distinguished virtues of his brother; who, retiring from the noise and dissipation of cities, upon the borders of his *Norwegian* lake, and in the solitude of his magnificent villa, dedicated all his hours to promote the good of his country and the general welfare of mankind. And let it be repeated, that these men were Merchants of *Christiania*. Excellent examples! EUROPE has not had their parallel. Nor can the history of the world afford more striking instances of the national advantages to be

Character and Exemplary Conduct of the two *Ankers*.

(1) See the valuable chapter upon "The direction of our Charity," by Professor *Malthus*, in his admirable work on "The Principle of Population." *Book* iv. *p.* 562. *Lond.* 1806.

derived from the exertions of private individuals so circumstanced;—who directed the streams of their benevolence into channels where they might flow to the utmost possible public advantage; who, while they "fed the hungry, and clothed the naked, and visited the fatherless and widows in their affliction," were all the while engaged in active scenes of commerce; and who encouraged industry, and rewarded merit,—taking the most especial care that the means for these great ends should neither be wasted by want of foresight, nor exhausted by indiscriminate profusion.

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CHRISTIANIA: INCLUDING A VISIT TO THE SILVER-MINES OF KONGSBERG.

Want of Booksellers' Shops—General aspect and condition of the Streets—Cathedral—State of Literature—Public Library—Dr. Müller's *Collection of Minerals—Journey to* Kongsberg—*Marble Quarries of* Gilljebek—*View from* Paradise Hill—Drammen—Hogsund—*River* Louven—Kongsberg—*Original Discovery of the Silver Ore—State of the Works—First Settlers—Remarkable Specimens of the Native Metal—Wages of the Miners—Present Establishment—Cause of the loss sustained by Government—The different Excavations—Approach to the Works—Geological nature of the Mountains—Manner in which the* Kongsberg *Silver is deposited*

deposited—Descent into the Mine—Native Mineral Carbon—Crystallized Native Silver—Erroneous notions entertained with regard to the Crystallization of Minerals—Metallurgical operations for the treatment of the Kongsberg *Ores—Public Seminary for Mineralogy—Professor* Esmark—*Collection of Minerals belonging to the* Kongsberg *Academy—Customs shewing the common origin of the* Teutons *and* Greeks—*Superiority of the* Norwegian *Women—Medical Properties of the* Linnæa Borealis—*Condition of the Peasants—Alum Works—Synthesis which takes place in the production of Alum—Return to* Christiania—*Public Balls—Rage for* English *Fashions—Further account of* Bernard Anker—*Timber Trade—State of Religion in* Norway—*Fortress of* Christiania.

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Want of Booksellers' Shops.

THERE is not in all *Norway* one bookseller's shop. In *Christiania* and in *Trönÿem* there are, it is true, bookbinders and stationers, who sell a few Bibles, Prayer-books, and Almanacks; but it is in vain to look for other publications. The chief articles in the shops are, grocery, *Manchester*-cottons, *Birmingham* and *Sheffield* wares of the cheapest and worst kind, woollen drapery, buckles and buttons, iron ware, hinges and locks, and such other common articles as may be observed in the shops of the poorest villages in *England*. The widest streets of *Christiania* are not so broad as *Bond Street*; and in these, the shops, though numerous, make no

General aspect and condition of the Streets.

figure. The pavement, as in some of our old towns where improvement has not been attended to, slopes towards a filthy sewer in the midway. Into this middle channel, of course, is cast all the dirt and drainage of the houses, where it is left to stagnate. Towns in which such nuisances are tolerated cannot be wholesome; yet of this nature were many of the cities of the *Greeks* and *Romans*[1]. The streets intersect at right-angles, and in all other respects *Christiania* has been built after a regular and uniform plan: at the intersections of the streets there are conduits for supplying the town with fresh water. The outsides of the houses are not so neat as those of *Trönijem;* neither has the town by any means so cleanly an aspect; nor can it boast of so much picturesque beauty, although its situation among inlets of the sea

(1) That the present state of *Constantinople* exhibits what the city was under the *Roman* Emperors, has been already shewn, in that Part of these Travels which relates to TURKEY. In the plates of the magnificent edition of *Banduri's Imperium Orientale*, (*Paris*, 1711,) there is a series of engravings made from the bas-reliefs of the *Historical Pillar*, which exhibit the streets of *Constantinople* as they existed in the time of *Arcadius:* and in these engravings the *Roman* infantry is represented upon a high causeway, serving, as it does now, for the foot-passengers; while the cavalry occupy the deep midway channel, which, at present, is always filled with all the ordure and refuse cast from the houses. Here also the wretched captives, dragged in triumph after the chariots of the *Roman* army, were made to walk.

give it a pleasing appearance. The approach to all the houses is by a flight of steps. The lower story seems to be half buried, like the offices for menials of the houses in *London;* and the windows of these subterraneous apartments are protected from the snow by a shed built of wood, which is made to cover and close over them. The Cathedral is a plain building, remarkable only for the resemblance which is exhibited, in its interior decoration, to some of our old churches in *England;* where the pews of the principal families, like so many separate oratories, are surrounded by high clumsy partition sides, containing casement-windows, glazed[2]. Such pews are suspended over the aisles in the church at *Christiania.* We visited

Cathedral.

(2) Many years, in all probability, will not elapse before every trace of these old *Gothic* pews will have disappeared from our churches. They were constructed in times of feudal splendour, when the persons of high-born dames were deemed too sacred to become the gaze of the profane vulgar. Even during the solemnities of public devotion, a certain degree of seclusion from the rest of the congregation was resorted to as a mark of their distinction; and their appearance in the church was like that of *Turkish* ladies in a mosque, being shut up in cages fronted with trellis-work. Some of these cages yet exist in old *English* churches. There is one in the Church of *Hothfield* in *Kent*, belonging to the noble family of the *Tuftons*, Earls of *Thanet*. The remains of others may be seen in various parts of our island. Another mark of the striking similarity of manners between the inhabitants of the two countries, is the practice which exists in *England* and in *Norway* of dividing the lower orders of the congregations according to their sexes; making the men sit apart from the women, during divine service.

this building during divine service, upon a Sunday, in the morning. It was a very fine day, yet there were not twenty persons assembled: and, judging from our casual visit upon this occasion, we concluded that the duties of the Sabbath are less regarded here than in any other town of equal size in *Europe*. Over the altar we observed a representation of the Last Supper, in very barbarous wooden sculpture. The figures were as large as life; and, among these, an image of *St. John* had been squeezed in between the table and the effigy of our Saviour, in a most ludicrous manner, as if about to be strangled. Being at a loss to reconcile this situation of the Evangelist with any thing related of him in the Gospels, we applied for information to others who were better informed; who told us that it was necessary he should be so placed, that he might appear as in the bosom of *Jesus*.

State of Literature.

The literature of *Christiania*, although an Episcopal See, is at a low ebb. It cannot be otherwise, separated as this place is from the mother country, without a University, and without the common convenience even of a Bank for its commerce: consequently, it has produced no eminent literary characters. But *Norway*, in general, has produced many: as, for example, the

celebrated *Baron Ludwig Holberg*, who founded the Academy of *Söröe*, and was the author of works in history and poetry; Bishop *Pontoppidan*, who wrote the History of *Norway*, a very jejune performance, and unfortunately the only one that has been translated into *English*; Professor *Schönning*, who wrote the best history, and several dissertations upon the Antiquities of *Norway*; Bishop *Gunnerus*, who founded the Royal Society of Sciences at *Trönÿem*, and wrote upon the Natural History of *Norway*; Professor *Vahl*, one of the best botanists in *Europe*: add to these, the old historians, *Tormadus Torfæus* and *Snorro Sturleson*. But although *Christiania* may have been deficient in the higher walks of literature, it has not been without poets, as in the instance of *Tullin*; nor without men of eloquence, as in the examples of the Bishops *Hersleb* and *Deichmann*. In the rest of *Norway*, poets have been numerous; as in the examples afforded by *Nordahl Brunn*, *Hans Bull*, *Pram*, *Stockfletts*, *Vibe*, *Zellitz*, *Fasting*, *Rein*, *Schmidt*, *Vessel*, *Steenersen*, *Storm*, &c. — names familiar among "old *Douvre*'s Echoes," although hitherto unheard in *Britain*; and as little known in any other part of *Europe*, as the Songs of the *Scalds*, who accompanied the armies of their ancestors, and were as necessary to the prowess of a *Nor-*

wegian, as either *Druid*, or *Bard*, among the *Celts*. Poetry has been long cultivated in *Norway*, and it was held in esteem among the inhabitants from the earliest periods of their history. "The Muse had broke the twilight gloom," long before they had any literary communication with more civilized nations. Their poetry, therefore, such as it is, must be regarded as their own: it may be compared indeed to the streams from their native mountains, rolling impetuously along their valleys, but unmixed with a single drop from any of the waters of *Helicon*.

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As connected with this subject, the literature of *Christiania*, we shall now mention its Public Library. It was the legacy of Mr. *Deichmann*, a native of *Norway*. The anti-room contains a curious painting by *John de Mabeuse*, well worth the notice of those who are interested in viewing the early productions of the art; also a cómplete set of antient and valuable engravings from the Cartoons of *Raphael*. Within the library there are no classic authors: it consists chiefly of modern historians; but there are some copies of more antient writers upon *Denmark* and *Norway*. We saw a very fine edition of the *Latin* translation of *Snorro*, which was printed, in folio, at *Copenhagen*, in the year 1777: also a copy of

the *French* folio *Encyclopédie;* and the superb *Danish* botanical work, entitled *Flora Danica.* Among the rest, amounting to some thousand volumes, there were few worth notice. They had no *Icelandic* manuscripts; but we saw here a curious collection of medals, and many valuable minerals. In the mineralogical series there were three hundred different specimens of *silver* from the works of *Kongsberg* and other *Norwegian* mines. But every thing of this kind, in *Norway,* is eclipsed by the cabinet of minerals belonging to Dr. *Müller;* to which, as we had free access, during our stay here, we often resorted. We shall, therefore, now add a few observations concerning this valuable collection, and its very worthy owner.

Dr. *Müller's* Collection of Minerals.

Dr. *Müller* is a native of *Denmark.* He was once well known in *London,* where he distinguished himself by his talents, as a physician, a chemist, and a mineralogist. In our country, he was the friend and follower of *Hunter;* and was the first person who publickly delivered lectures in *Mineralogy* in our metropolis. Dr. *Babington,* who has since composed a System of *Mineralogy,* was one of his pupils. Upon the continent, he was successively the disciple of *Lavoisier, Klaproth,* and others: in *Germany,* he studied under *Werner;* and in *Holland* obtained

the prize-medals for his compositions in *Latin* poetry. His collection of *minerals* at *Christiania*, which he has annually augmented, and kept with uncommon neatness and care, is the most beautiful, and, if we except that of Assessor *Esmark*, at *Kongsberg*, also the most geognostic of any in all the north of *Europe*. It amounted, at this time, to upwards of 4000 specimens. But what rendered it particularly valuable in our estimation, was, that it contained many specimens illustrating the mineralogy of our island, which cannot be seen in our own country, because they are not now found in *Britain*. The interesting varieties of *tin oxide*, in the form of *stalactites*, whether as *wood-tin*, or under any other trivial name, together with a copious series of crystals from the mines of *Cornwall*, were the finest specimens we had ever seen. To these were added a beautiful series of bituminous bodies, selected under circumstances of association, all of which were calculated to illustrate some fact in the natural history of the mineral, or to confute some prevailing error. Among the *English* minerals we also saw varieties of *actynolite*, and of *asbestus*, from the western coast of *Scotland*; extraneous fossils from our *limestone* quarries; and varieties of *granite*, and other compound minerals, from the quarries

of *Aberdeen*. Among the foreign minerals were specimens of the utmost rarity; such as *rubies* and *diamonds* in their matrices; together with an important series from the *Swedish* and *Norwegian* mines, identifying many substances which have been separated in all the most celebrated systems of mineralogy[1]. Add to these the most magnificent specimens of *native gold, silver, antimony, iron,* and *copper,* which any collection in *Europe* can boast; and some idea may be formed of the importance and riches of this remarkable cabinet. Dr. *Müller* has also an extensive knowledge of *botany,* and possesses a valuable *Herbarium.*

Journey to *Kongsberg.*

It was in company with this gentleman, and our *English* friends, Messrs. *Kent* and *Jarret,* together with a little boy, the son of Dr. *Müller,* that we set out for the *Kongsberg* mines. We left *Christiania* upon the twentieth of *October,* in a coach and four, followed by our phaëton drawn by a pair of horses. The roads were very bad, and at this season of the year rendered

(1) For the *mineralogical* reader it will be proper to mention a few instances of this nature; tending to simplify the science of *mineralogy,* and to curtail it of many superfluous names. Dr. *Müller* has succeeded in identifying *amphibole* with *tremolite* or *grammatite;* also *pyroxene* with all the substances called *kokkolite, sahlite, mussite, alalite,* and *diopside;* and again, *Gabronite* with *Scapolite* and *Wernerite.*

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almost impassable by the depth of the mud which covered them. Our route lay along the coast upon the western side of the bay, affording beautiful views of the distant islands. We changed horses at *Ravensbörg* and *Gilljebek*[1]. After passing *Gilljebek*, at the distance of about an *English* mile, we came to the marble quarries upon *Paradise Hill*. Here we halted; and collected from the quarries a few very interesting minerals, for which this vein of transition marble[2] is remarkable; namely, *asbestiform tremolite*, containing imbedded crystals of dodecahedral *green garnets*, and also dodecahedral crystals of *green carbonated lime*, which seem to have owed their form to cavities left by the *garnets*: they were not, however, hollow, as pseudomorphose crystals

Marble Quarries of *Gilljebek*.

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(1) These places are named as they appear in *Pontoppidan*'s large map. They are pronounced *Ravensburg* and *Giellebeck*.

(2) All the rocks here have been described by *Von Buch* as belonging to the *transition* formation; otherwise this *marble* is, to all appearance, of the kind called *primitive marble*. It has the same crystalline structure, and the same whiteness. Speaking of the rocks in the neighbourhood of CHRISTIANIA, *Von Buch* says, "I found here stones which were never supposed to be in the *transition* mountains, but which were here seen with such a distinctness of stratification, that not a doubt could remain as to their relations in this respect: * * * * *Porphyry* in immense mountains reposing on *limestone* full of petrifactions; a *syenite* over this *porphyry*, consisting almost entirely of coarse-granular *feldspar*; and in the same manner, a *granite* not different throughout in its composition from the *granite* of the oldest mountains. *Granite* above *transition limestone!* Granite as a member of the *transition* formation!"—*Von Buch's Travels through Norway, &c. p. 45. Lond.* 1813.

generally are; and might easily be confounded with the *garnets*, from their resemblance, in size, colour, and form. The *geological* features exhibited by the rocks at *Gilljebek* are indeed remarkable: the *marble* lies upon a stratum of *granite*, and beneath the *granite* occurs a schistose *porphyry*. This *porphyry* in several places rises to the surface; the basaltic hills near *Drammen*, mentioned by *Linnæus* as a species of *trap*, being composed of it. Many varieties of *porphyry* are found upon *Paradise Hill*; also *red* and *grey granite*; *green-jasper*, and *ribbon-jasper*; and *red* and *yellow feldspar*. In the pavement of the streets of *Christiania*, there had been found, by Dr. *Müller*, blocks of *ribbon-jasper*; but in our own observations upon the *jasper* found here, and also near *Christiania*, we should, in some instances, almost hesitate to consider it as *jasper*; that is to say, as a pure *hydrate of silica*. It seemed rather a kind of *rock-flint*, approaching in its degree of hardness to that of *jasper*, but having a more earthy fracture, and not being susceptible of so high a polish. The proportion of *alumina* in the stone seemed to be very considerable; and so it is indeed in some of the varieties of *jasper* said to have been analyzed by *Kirwan*[3] and *Rose*[4]; but the fact is, we

(3) See *Allan's* Synoptic Tables, Tab. xxii. *Edin.* 1814. (4) Ibid.

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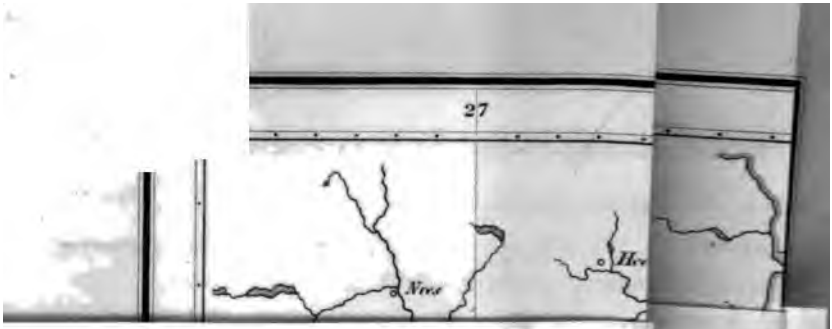
have no good analysis of the substance commonly called *jasper*; and hence the ambiguity attached to all the descriptions of this mineral. The name is sometimes applied to veined *agate*, a compound mineral consisting of *chalcedony* and *quartz*; sometimes to striped *chalcedony*; and even in some instances to *greenstone trap*, where the paste is fine, and the particles of this aggregate too minute to be discerned by the naked eye. Still more frequently has the name been applied to *hornstone*; especially when the layers of *hornstone* are of different colours, so as to occasion the striped appearance which gives rise to the appellation of *ribbon-jasper*.

View from Paradise Hill.

From *Paradise Hill* we had a delightful view of the whole of *Leer* Valley, with the towns of *Tangen*, *Strömsoe*, and *Bragernæs*; which go under one common name of *Drammen*, owing to the river *Drammen*, whereon these towns are situate. The descent upon *Drammen*, as it is thus called, may be reckoned among the finest things in *Norway*. To the right of the spectator rise mountains of basaltic *porphyry*; towards the left and in front extends a magnificent valley, combining almost every thing that nature and art can contribute to render such a prospect pleasing to the eye; upland and dale, and rocks and woods and water, decorating the smiling

Drammen.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nes of human industry, and appearing with aspect of greater cheerfulness, because garished with many picturesque buildings, denoting a numerous and thriving population[1]. The people of *Drammen* are said to be richer than those of *Christiania;* but they lead a more private and retired life. The principal resident foreigners are from *Holland;* and these *Dutch* families may be considered as holding a station at *Drammen* similar to that of the *English* in *Christiania.* There are also some *Italians* settled here, who are in a flourishing way. The timber of *Drammen* does not find a market in *England;* the deal planks being short and bad: but it goes to *Holland,* and is there sold.

Hogsund.

We changed horses at *Bragernæs,* and came to *Hogsund;* having pursued our course through a populous and delightful valley, along the banks of the *Drammen.* The situation of *Hogsund,* on the river and near to a cataract which turns some saw-mills, gives it considerable beauty. The clouds were now low, and hung in various fantastic shapes upon the mountains. Hence the distance to *Kongsberg* is two *Norwegian*

(1) "So thickly peopled," says Mr. *Coxe,* "that every fifty yards we observed a cottage, and for several miles together seemed to pass through a continued village."—*Travels into Norway, vol.* V. *p.* 232. *Lond.* 1791.

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miles over a very hilly road. Leaving *Hagmund*, we were ferried over the river, and continued our route to *Kongsberg*, upon the *Lowen*[1]. We passed a small but pleasing lake upon our left. Towards *Kongsberg* the mountains became higher, and more denuded towards their summits. We descended a long and steep hill into the town of *Kongsberg*, entering it by a wooden bridge over a roaring cataract of the river *Lowen*, which made a most tremendous appearance at this season; perhaps owing to the late rains, which might have given a character of more terrific grandeur to this fall of water than it usually possesses.

River Lowen.

Kongsberg.

A man must be indifferent indeed to natural history, who does not feel some degree of curiosity respecting *Kongsberg*, in whose mines a mass of *native silver* was found, in one entire piece, weighing nearly six hundred pounds[2]. But, independently of its mineral celebrity, *Kongsberg*, as a handsome town, is a place of

(1) See the Map.

(2) "Quid Norvegiæ in fodinis Kongsbergensibus, ubi jam per seculum vix nisi argentum nativum et semel iterumque etiam aurum, tanquam aurum melioris progenies, in lucem et diem gelidissimum plenissimo sæpe cornu prodierat, cujus annuum proventum ab anno 1711, ad 1724, sistere volupe est, ut inde miranda naturæ phænomena in regno subterraneo subsistentia luculentius contemplari liceat."—*Svedenborg in præfat. "Regni Subterranei."*

considerable distinction in *Norway*. The streets are wide, and many of the houses are neat and well-built. Its very existence, however, is owing to the excavations carried on here, in search of precious ore; for when this was first discovered, there was hardly a cottage near the spot. This event took place in the year 1623[3], by means of a boy, whose foot, in pursuing some cattle, was arrested and caught by a hook or thread of native silver projecting above the surface of the rock. Very different accounts are given respecting the profits which the *Danish* Government has derived from the *Kongsberg* mines: the general opinion, however, seems to be, that the undertaking is attended with loss. It was stated to us, upon authority which we were inclined to credit, because coming from those who had the principal management of the works, that the annual loss to Government amounted to 240,000 rix-dollars: and when we inquired, why, under such circum-

Original discovery of the silver ore.

(3) *Pontoppidan* is agreed as to the date of the discovery, but differs as to the manner of its being made. He relates a somewhat improbable story of the herdsmen pelting each other with the ore. (*See Nat. Hist. of Norway, vol.* I. *p.* 183. *Lond.* 1755.) And the story of the boy, whose foot was caught by a thread of *native silver*, is too much of a piece with the circumstance related as to the origin of the famous *Peruvian mine*, not to suppose that the two narratives had, at the least, a common origin. —The discovery of the rich mine of *Potosi* is said to have happened on the 24th of April, 1545.

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stances, the excavations were continued, we were told that the employment given to a great number of inhabitants, who would otherwise be without the means of subsistence, induced the *Danish* Government to persevere. But that an endeavour is making to contract the works, is plain from this circumstance, that every miner is encouraged to leave *Kongsberg* by a premium offered to him of a year's pay after his departure. The very nature of the mine must have given rise to extraordinary vicissitudes of hope and disappointment; because, as the search is carried on in pursuit of imbedded masses of native metal, dispersed for the most part in capillary forms and unconnected laminæ, rather than in any regular veins, it must happen that the labour will frequently prove abortive for a considerable length of time, and, at intervals, be perhaps attended with sudden and unexpected success. *Pontoppidan*, whose account of the works here was written in 1751, calls it[1] "the present flourishing mine at *Kongsberg*." He says, that, to the best of his knowledge, it is "the most considerable and of the greatest profit of any mine in *Europe*; and in respect of pure massy silver veins, quite inexhaustible."

State of the Works.

(1) Nat. Hist. of *Norway*, Vol. I. p. 183. *Lond.* 1755.

First Settlers.

The first inhabitants of the new-built town of *Kongsberg*, when the works commenced under the auspices of *Christian the Fourth*, were miners from *Germany*; and they were the ancestors of the many thousands now living there. In process of time, the German settlers mixed with the other inhabitants; and now all of them are under the direction and government of the College of Miners. The *silver*, as it was before stated, occurs in lumps of native metal: but so unusual is this circumstance, that when the mine was first discovered, many refused to give credit to the fact of such masses being actually brought to light. We shall mention some of the most considerable. The first, is that preserved in the Royal Museum at *Copenhagen*[2]; its weight being five hundred and sixty *Danish* pounds, and its value five thousand rix-dollars[3]. It is a

Remarkable Specimens of the Native Metal.

(2) See the account of *Copenhagen*, in the preceding Volume of these Travels, p. 95.

(3) *Pontoppidan* says it is the same of which the measure in *Danish* feet, &c. is thus given by *Olig. Jacobeus*, in his *Museum Regium*, p. 51. "*Minera ingens argenti ex fodinis Norvegiæ, pedum quinque et pollicum sex longitudinem æquat, crassitiem verò in circumferentia pedum quatuor.*" And the dimensions, as here stated, seem to coincide with our own measurement of the specimen now preserved in the Royal Cabinet. "*Anno* 1666, *d.* 24. *Augusti ex fodina Norv. Regiomontana, quæ Novæ Spei appellatur vulgò, extracta est* 560 *librarum pondere, et a præfecto fodinæ memoratæ, pretio* 5000 *Imperialium estimata. Huic non dissimilis massa, anno* 1630, *regnante in Dania divo Christiano Quarto, ex fodina Norvegica quæ Benedictio Divina vulgò, eruta est, quæ* 3272 *Imperialium pretio estimata.*"

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mass of native silver nearly six feet in length, and in one part above eighteen inches in diameter. Similar masses were discovered in the year 1630, and in 1719, and in 1727, which severally weighed from two hundred and fifty, to two hundred and eighty, and three hundred pounds, each. In the shaft called *St. Andrew*, a piece of pure silver was found, in 1727, weighing two hundred and seventy-nine pounds; and, in the same year, another, weighing three hundred and four pounds, was found in *God's-Blessing* shaft. These occasional masses, occurring casually in the rock, and being soon interrupted in their passage through it, or dwindling gradually to nothing, the miner must continue to dig through the barren stone until he has the good fortune to meet with more of the same nature, which in one day may reward the fruitless labour of months, and perhaps of years. *Pontoppidan* says, that after the discouragements of a long and fruitless toil through the barren interstices of the mine, "it suddenly exhibits several thousand pounds weight of silver, and thus discharges all arrears and embarrassments, and animates to further prosecution." Such was the statement made by a writer in the middle of the eighteenth century. According to the account given to us by the present Governor,

Wages of the Mines.

130,000 dollars are coined annually from the produce of three mines. In general, 2300 men are employed, who earn each about a shilling a day of our money. This seems very little; but, in addition, the King always supplies the miners with corn at a fixed price, much below the average value. At this time, the price of rye, per ton, was six dollars and a half, and the miners were allowed rye at two dollars. The miners work from five to one o'clock, summer and winter. When they work in the afternoon, they are paid an extra allowance. There is generally employment for the children of the miners at twelve years of age. The principal bed of this mineral treasure is a mountain between two small rivers, the *Kongsberg* and the *Jordal*, which fall from the westward *Blee-Field* Alps into the *Louven*[1]. But the *silver* is not limited to this mountain; it extends its deposits for some miles throughout all the adjacent districts: this is proved by the new mines which from time to time have been undertaken in several places. The mine, or shaft, called Old *God's Blessing*, one of the most antient and most rich, has sometimes within a week yielded some hundreds of pounds of pure native metal. It is

(1) See the Map.

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nearly two hundred fathoms in depth, and the circumference at the bottom forms a clear space of several hundred fathoms[1]. When *Pontoppidan* drew up his account of the *Kongsberg* mines, the annual produce amounted in value to "a tun of gold and a half, and sometimes three quarters." The number of the officers of all ranks, the daily miners, labourers, and pensioners, exclusive of their children and families, who had their daily support here, according to the establishment, amounted to near five thousand persons[2]; and the number of all the inhabitants of *Kongsberg*, to between ten and eleven thousand souls. To the great number of officers, under the names of Intendants and Assessors, possessing salaries from Government, is owing the vast expense of these works to the nation. These officers, in fact, engross a considerable part of the profits; and if, as it is very possible, their number were to be reduced, the profits from the mines would be more sensibly felt. By dismissing a number of such persons, half of whom can only be considered as *drones*, and augmenting the number of miners, the *working-bees*—that is to say, of those actually

Present Establishment.

Cause of the loss sustained by Government.

(1) *Pontoppidan's* Nat. Hist. of *Norway*, vol. I. chap. 8. sect. iv.
(2) Ibid.

employed in useful labour—the finances of the *Kongsberg* establishment would soon begin to wear a more promising appearance. From the lavish expenditure of the public money, the want of economy visible in every part of the establishment, and the want also of that vigilance which is necessary to prevent embezzlement where precious metal is brought to light in a state actually ready for the mint, it was easy to perceive, during our own examination of what was going on here, that the works were not the property of individuals; but that, as they belonged to the crown, so they were open to all manner of peculation, no one feeling a sufficient degree of interest in their prosperity to prevent waste, or even robbery.

The mountain on which the mines nearest to the town are situate is about 1295 *French* feet (1498 *Danish* feet) above *Kongsberg*, which itself lies 926 feet above the level of the sea. Many of the neighbouring mountains are much higher. The base of those, in general, in which the *silver* is found, is chiefly *hornblende* and *mica*, but the veins of ore are contained in *red transition granite*. The deepest of the *Kongsberg* mines measures 375 fathoms perpendicular from the surface. The richest of them all now affords very little ore: its appellation is nevertheless

The different excavations.

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curious—"*God's help in time of need*:" and it will become "*a time of need*" in reality to these poor people, if the mines should altogether fail. No less than 14,000 families are either immediately dependent upon them for their support, or collaterally derive from the mines their means of subsistence. Of this number, 2300 are miners: but there are 7000 families in *Kongsberg* maintained entirely by the works: and also an equal or greater number in the country, who, either by procuring fuel for the smelting-houses, or in some other way contributing by their industry to the maintenance of the mining establishment, are entirely indebted to it for a livelihood.

Approach to the Works.

We visited one of the mines which they were now working. Like the others, its situation is between the rivers we have mentioned in that alpine barrier of mountains which separate the provinces of *Christiansand* and *Aggerhuus*. The approach to the works is by a continued ascent the whole way: and were it only for the striking view afforded, in this ascent, of the town of *Kongsberg*, the mountains, and the beautiful valley of the *Louven*, it would be worth the journey required. All the mountains, among which the *Kongsberg* mines are situate, are stratified: the strata occur in regular beds extend-

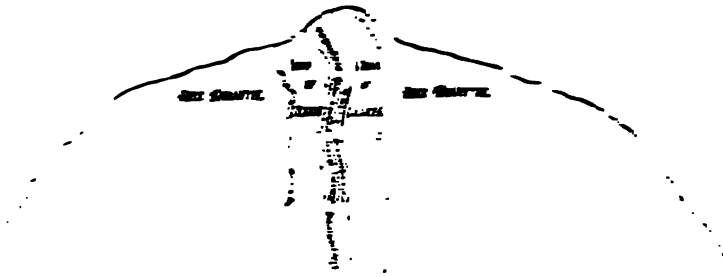
Geological nature of the Mountains.

ing from *north* to *south*, but having always a dipping inclination towards the *east*. These strata are moreover intersected by the veins of *slate* and *calcareous spar*, which serve as the matrices of the *silver* ore, in fissures bearing across the strata from *east* to *west*, and dipping towards the *south*. From all this, it would be evident that the whole formation belongs to the class of *transition rocks* which *Von Buch* has described as being so remarkable in this part of *Norway;* namely, *transition granite* reposing on *transition limestone*, and being itself intersected by veins of *slate* and *limestone*. But *Von Buch* speaks of "the primitive mountains which surround *Kongsberg*[1]:" and if we were to judge from detached specimens of the *red granite*, in which the veins of *silver* are found, we should be disposed to consider this kind of *granite* as belonging to the oldest class of primary rocks. We will endeavour to shew, by a rude cut, the manner in which the *Kongsberg silver* is found. The more antient or primitive fissures inter-

Manner in which the *Kongsberg* silver is deposited.

(1) "The primitive mountains which surround *Kongsberg* stretch much less southward than we might well believe. Scarcely two *English* miles down, beyond the *Dal-Elv*, under the Church of *Hedingstad*, and before we come to *Hellestad*, the *gneiss* disappears under the dark bluish-grey fine granular *limestone*." *Travels through Norway, &c. p.* 419. *Lond.* 1813.

CHAP. VIII. seeing the seams are perpendicular; but those which are now worked have an inclination towards the east. By the cut here afforded, it



will be seen that the *silver*, as it generally lies, is found in a vein of *calcareous spar*, and that this again occurs in a vein of *schiste* of *slate*. But there is a remarkable leader to the ore, without the presence of which the miners have little hope; namely, *iron pyrites* and *iron oxide*: whenever the intersecting fissures contain these minerals, then *silver* is found: but if the *pyrites* and the *iron* disappear, the *silver* also fails; which is a very remarkable fact, as connected with the history of mining. Every thing indeed belonging to the nature of these mines is worth the most scrupulous attention; because mines of *native silver*, although not unfrequent in *America*, are the most rare in *Europe*: and among the very few instances in which such a

deposit has been observed, this of *Kongsberg* is the most conspicuous. When we came to the mouth of the shaft, a basket filled with the ore had just then been raised, which we eagerly examined. It consisted of native silver, disseminated in laminæ throughout masses of *limestone spar*, with dark veins of *schistus;* containing, in some instances, *sulphuretted silver*, and *sulphate* of *barytes:* the specimens were poor in precious metal, but served to give some idea of the produce of the mine; which is now an ore almost too poor for the operation of stamping; and now so rich, that the *silver*, as if it had been fused and drawn out into threads and capillary fibres, is seen in native masses, protruding beyond the surface of the stone[1]. Sometimes the most beautiful *arborisations*, as they are called, of the native metal, are exhibited by contiguous crystals of *native silver*, in octahedral and in cubic forms.

Descent into the Mine.

We descended into the mine by means of ladders, as into the *Cornish* mines; being everywhere struck by the proofs of the same inconsiderate expenditure of the public money, and the same waste among the works. There can

(1) See the *Vignette* to this Chapter; made from a specimen now in the author's collection, which he brought from the *Kongsberg* mines.

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be little doubt but that these mines would become very profitable, if they were in private hands: and perhaps the best thing the Government can do, is to farm them out to individuals.

Besides *native silver*, these mines produce that very rare substance, the *native electrum*, or *auriferous native silver*. We found it a very difficult thing to procure any tolerable specimens of this curious native alloy of *gold* and *silver*. When it occurs, the metal has a *brassy* aspect. We had a specimen of it, which we analyzed, containing, besides *silver*, nearly thirty per cent. of *gold*. Like the *native silver*, it is found in laminary and capillary forms; and sometimes, but very rarely indeed, it is crystallized in cubes. The other minerals found here are noticed below, in the note[1]: with the

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(1) 1. Sulphuret of silver, massive and crystallized.
2. Red antimonial sulphuret of silver, ditto.
3. Argentiferous sulphuret of lead.
4. Sulphurets of copper and iron.
5. Sulphurets of zinc, brown and yellow.
6. Fluate of lime, of various colours.
7. Lime spar, in great variety of forms.
8. Quartz, ditto.
9. Sulphate of barytes.
10. Comolite, or pot-stone.
11. Asbestus, in the forms of *mountain-leather* and *mountain-cork*.
12. Anthracite.
13. Iron ores—magnetic iron—*loadstones*, &c.

exception of the ores of *copper*, the specimens of which are exceedingly rich; but they are not sufficiently abundant to make this metal an object of research, otherwise than for the *silver* with which it is combined[2].

We descended into the mine by ladders nearly perpendicular; meeting with occasional landing-places, in our way down. At the depth of a few hundred feet, the veins of *silver* were occasionally pointed out to us; but those which we saw were so poor, that they could scarcely be discerned by any but a miner's eye. The richest veins are those which dip towards the *south*: and they are especially rich when they occur associated with the *sulphuret of iron*, or *pyrites*; called, by our *Cornish* miners, *Mundic*. The ore, and all the rubble of the mine, were drawn up by a water-wheel, at the distance of four or five hundred yards from the mouth of the shaft; the communication being carried on the whole way by cumbrous machinery. From the spot where this shaft has been opened, we had a fine view of *Kongsberg* and of the surrounding country.

After a most laborious investigation of the

(2) It is nevertheless collected, after being separated, and in considerable quantities, from the basons in the smelting-works: the pure *copper* being made into *cakes* of the same size and form as are those of the *silver*.

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different parts of the mine,—which only served to convince us, as it often happens to travellers, that as much knowledge of the real nature of these subterraneous deposits may be obtained by studying the ores above ground,—we were again conducted to the surface. It was here we saw, for the first time, a mineral, then rare in cabinets of mineralogy, but which has since become very common; namely, *anthracite*, or *native mineral carbon*, which frequently occurs in the *Kongsberg* mines, associated with the silver ore. That a substance so nearly related to *diamond*, containing the same elementary body, almost in a state of equal purity, should externally resemble a piece of common *pit-coal*, will not appear so surprising as it might otherwise do, when we know that the *diamond* itself has been found to exhibit a similar appearance[1]: but it may serve, among many other phænomena, to manifest the absurdity of ascribing the presence of *carbon* and its compounds, when in a mineral state, and in primary and transition rocks, to the decomposition of vegetable matter. It would be a much wiser way of reasoning

Native Mineral Carbon.

(1) Opake jet-black diamonds, although rare, are known to diamond-merchants; and the black flaws or specks, which are sometimes seen in diamonds, are nearly allied in their nature to *anthracite*.

upon the operations of nature, if we were rather to consider the vegetable produce of the earth as deriving its existence from the minerals which supply it with the alimentary principles of life. The only difference between *anthracite* and *bituminous coal* is, that, in the first, *carbon* is almost in an uncombined state[2]; whereas, in the second, it has entered into combination with one of the constituents of *water*; in which state it may very possibly mineralize *wood*, or any other organic body, just as they become mineralized by other native compounds;—for example, by the *hydrates of silica*. But to infer from such accidental circumstances that the native compound has owed its origin to a change sustained by the vegetable body, is taking too narrow a view of the subject, and building a theory upon fortuitous and partial phænomena[3]. We

(2) The following analysis of *conchoïdal anthracite* will be found very nearly to agree with that of the *native mineral carbon* of *Kongsberg*:

Carbon	96 . 66
Alumina	2 . 0
Silica and iron . .	1 . 33
	99 . 99

(3) Among the absurdities urged in support of the vegetable origin of *coal*, is that of *wood* thus mineralized by the bituminous body. The author was once directed to a specimen of fossil timber, part of which was of *coal* and the rest of *wood*, as to a proof that the origin of *pit-coal* was thereby plainly demonstrated, and that it was owing to decayed vegetables. With just as much reason did the *French Savans* insist upon deriving all the

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were surprised at the difficulty we experienced in procuring fine specimens of the *native silver*; but it seems they are sent, as soon as found, by the Assessors, who have the first selection, to the dealers and principal collectors in *Copenhagen*; insomuch, that the resident mineralogists at *Christiania*, and even at *Kongsberg*, are under the necessity of procuring their own specimens, at very advanced prices, from that capital. Our good friend Dr. *Müller*, by his acquaintance with a widow of one of the Assessors, obtained for us permission to purchase a few varieties; in some of which, the crystals of *native silver* were very perfect, and in the octahedral form. There are few things less obvious in the natural history of minerals, than the manner in which Nature conducts her operations for the developement of the native metals; although there be evidences which tend, at least, to prove that these phænomena result from the decomposition of ores by chemical affinities. *Capillary native silver* is often a result of the decomposition of the *sulphuret of silver*; and in the *Hungarian* mines it is found

Crystallized Native Silver.

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the *aluminous* rocks of the globe from decomposed plants, because the impressions of the leaves of *ferns* are seen in *slate*; and all the *limestone* from the decomposition of animal bodies, because it contains the impressions of shells and other organic remains.

upon decomposing sulphurets. *Native silver* is also developed in the *Peruvian* mines, by the action of *iron* and other metals upon the *muriates of silver*. The same may be said of the developement of *native gold*, which results from the decomposition of the *sulphurets*; as may be proved by the action of heat upon the auriferous ores of *tellurium*, and by the spontaneous decomposition of the auriferous *sulphurets of iron* found in the mine of *Berezow*, in *Siberia*. But then the crystallization of these metals! — the perfect crystalline forms assumed by both of them! by the *native silver* at *Kongsberg*! and by the *native gold* of *Hungary* and of the *Brazils*!—how are these phænomena to be explained; without supposing that the two metals have been previously held in a state of solution, and that the crystals have been deposited from a liquid state; being held in solution, either by the fluid matter of heat, or by some other fluid? "*The particles of bodies*," it will be urged, "*in order to crystallize, must be at liberty to move*;"—all of which is very easily said, and is, perhaps, after all, mere sophistry; it having been already proved, and beyond dispute, in another Part of these Travels[1], that the particles of precipitated bodies, or sedi-

Erroneous notions entertained with regard to the crystallization of Minerals.

(1) See Vol. VI. p. 128. Octavo Edit.

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ments, do combine according to the laws of cohesion; that is to say, do assume the utmost regularity of crystalline form and structure; the most perfect symmetrical arrangement; and even change from a state of opacity, to a certain degree of transparency (as in the example of the crystallized alabaster of *Antiparos*), after the original deposit from the fluid state has taken place, and in cases where the molecules were precluded from the possibility of motion. These are surprising facts: and they deserve the more attention, because, as they seem to militate against the theory which has been long established respecting a regularity of structure in minerals, so they may perhaps serve to explain, whenever they are satisfactorily accounted for, the hidden laws by which crystallization is effected.

Metallurgical operations for the treatment of the *Kongsberg* Ores.

Upon our return to *Kongsberg*, we visited the smelting-houses, and inspected the metallurgical operations for the reduction of these remarkable ores. The process is very simple: it is that which the *French* writers call *imbibition*, by means of *lead*[1]. They melt together, in nearly equal parts, *lead* and *native silver*, divested

(1) See "Traité de Min. par *Alexandre Brongniart*," tome II. (Article *Métallurgie*), p. 337. *Paris*, 1807.

as much as possible of its matrix; and thereby obtain an alloy, consisting of *lead*, combined with from thirty to thirty-five per cent. of *silver*. The *lead* is afterwards separated, by the usual process of cupellation. We were amazed at the facility with which all manner of persons obtain admission to these works, when the rich ore brought from the mines is lying about in heaps, covering the floor. Persons disposed to pilfer, would find no difficulty in removing large portions of it. The ore is of four kinds; which severally bear the following appellations:

1. *Gedieget Sölv.*
2. *Meddel Ertz.*
3. *Skeide Ertz.*
4. *Slig.*

The *first* of these consists of pure *native silver*.

The *second* of *native silver*, with a portion of stony matrix; *i. e.* lying in laminæ, which cannot be altogether separated from the mother-rock.

The *third* of a poorer ore, in which only detached specks and minute grains of *native silver* are visible.

The *fourth*, of the sand and rubble of the mines.

The two first, that is to say, the richer ores, are smelted with the greatest facility, being only mixed with a proportionate quantity of *lead*;

but the two last, whose manipulation constitutes the principal work of the furnaces, requires a longer process, which we shall now describe. The *slig* is mixed with *pyrites*, and smelted; when the latter enters into combination with the *silver*, forming a *sulphuret*: but the superfluous portion, during this process, becomes *slag*, and is separated. This mixture of *silver* with *pyrites* is called *raasten*. It is then calcined, by which process the volatile part is sublimed. After calcination, the *raasten* is mixed with *skeide ertz*, with a portion of the richest *slig*, and also with a small quantity of *slag*; and these four ingredients are then smelted together. When in a state of fusion, the whole is suffered to run into a bason, where it is further mixed with *lead*, which combines with the *silver*. Afterwards, the alloy is removed to another furnace; in which, as the *lead* rises to the surface, it there floats, and is gradually drawn off. Then the *silver* undergoes the last process; in which, by the degree of heat communicated to the mass, it becomes divested of any small portions, either of *lead* or of *copper*, which may remain.

The business of mining is confined to the same families: no strangers are allowed to work. There is generally employment for the children of the miners, at an early age. They are now,

however, increasing rather faster than the employment for them. We saw many children in the streets, and much apparent distress and poverty; many beggars, both of children and grown persons: but the houses were tolerably neat.

Public Seminary for Mineralogy. Professor *Esmark.*

There is a Public Seminary at *Kongsberg*, in which Lectures on Mineralogy are delivered by Professor *Esmark*, who is also one of the Assessors, and the most scientific mineralogist, perhaps, in *Europe*. This gentleman is well known in all Foreign Academies, for the works which he has published. He has done more towards the overthrow of the wild systems of the *Plutonists* than even *Werner* himself; and this simply by his own personal observations in his travels; by opposing the results of actual experience, and matters of fact, to mere visionary and speculative opinions. It was he who discovered *pumice* and *obsidian* regularly stratified in porphyritic rocks; thereby refuting the notions that were entertained of the origin of such phænomena by means of volcanic fire; and as satisfactorily accounting for their formation by the humid process, as did the discovery of a cave in *Iceland*[1] with dripping stalactites of

(1) See Blackwood's Edinb. Mag. No. X. p. 379.

obsidian pendent from the roof. Dr. *Müller* introduced us to this gentleman. His collection of minerals is one of the most *geognostic* we ever saw; and it is filled with specimens tending to illustrate the real origin of the substances which have been improperly termed *volcanic*. He exhibited to us masses of *porphyry* containing imbedded layers of *obsidian;* and this, again, containing *pumice;* together with a regular series of transitions, shewing by what changes *obsidian* passes into the state of *pumice*. Considering *trap* as a generic name applied to a great variety of rocks, especially those of *porphyry*, the Professor comprehended under this genus, *schistus*, and all the rocks called *schifver* by the *Germans*, and many of the substances which, owing to their porous aspect, are often considered as lavas; for example, *mandelstein*, or *almond-stone*, of which there are so many varieties in the islands of *Rum* and *Skye*, in the *Hebrides*, containing *zeolotic nuclei;* and all the *basaltic porphyries* of *Drammen*, with which *mandelstein* is found, as it is also in *Hungary* and *Transylvania*. Upon examining the *basaltic porphyry* of *Drammen* with a lens, we perceived that it was full of small spheroïdal concretions, like those which appear in the basaltic rocks of *Canna* in the *Hebrides*, and which have been by some tra-

Collection of Minerals belonging to the *Kongsberg* Academy.

vellers ascribed to an igneous operation. Professor *Esmark* conducted us to the grand chamber of the *Kongsberg* Academy, where we saw a collection of minerals, in beautiful order, and most scientifically arranged. The very sight of such a collection affords of itself an edifying lesson for mineralogists; but we were willing to forego some of the advantage which might be derived from its inspection, that we might enjoy the valuable conversation of the Professor. From him we learned, that the School of this Academy is a Royal Institution for the instruction of the children of the miners, in *mineralogy*, *chemistry*, *physic*, *mathematics*, and other branches of science. There are three Professors, among whom Professor *Esmark* holds the *mineralogical* and *geological* department. Any of the miners, or children of the miners, may attend this institution. Two days in every week, and two hours in each day, are dedicated to the instruction of the miners, and all other persons who choose to attend. FOR THESE LECTURES, NO PAYMENT WHATSOEVER IS REQUIRED. Of the advantages of such an institution, where there are profitable mines, it would be vain to attempt to speak. We felt, at the moment, an inward sense of shame for our own country, in which such studies have hitherto met with so little

encouragement. We could but turn our thoughts homeward, and ask, what the Government of GREAT BRITAIN had ever done towards the advancement of *mineralogical* knowledge. At this moment there was not a single Professor of *Mineralogy* in any of our Universities: and it will be long indeed before the eyes of pedants, who bear so much sway in our places of public education, will be open to the importance of establishing Schools of Mineralogy. The very science itself, and all that belongs to it, is to them as a sense which they never enjoyed: whence it follows, that to reason with such persons of its advantages, is like talking of the blessing of light to one who has the misfortune to be born blind[1].

The appearances of squalid poverty which disgrace the streets of *Kongsberg* were before alluded to: this place, like *Christiania*, swarms with beggars; who beset the door of the inn at which travellers arrive, forming together a mob

(1) These reflections are given as they occur in the author's Journal. They will, he hopes, be read with a reference to the time in which they were written. A very considerable alteration is now beginning to take place with regard to the study of *mineralogy* in *Great Britain*: but it is not too much to say, that the prodigious source of wealth which its due encouragement might open to our nation has not yet been adequately weighed by our Rulers. There is not one school established for the instruction of *miners*, in any of our mining districts.

of most disgusting objects; each endeavouring to extort money, as in *France* and *Italy*, and as it used to be in *Ireland*, especially in the streets of *Dublin*[2], by exposing to view distorted limbs, and deformity, and open sores; thrusting these revolting sights in the very faces of every stranger they meet. We were glad to get away from them; and set out again for *Christiania*; returning by the same road that we came, and sleeping the first night at *Drammen*.

In the church-yard at *Drammen* we observed that almost every grave was covered with a bed of flowers. Dr. *Müller* told us, that, in the summer season, these flower-beds upon the tombs have a very pleasing appearance; and that it is also customary, during the summer months, to scatter flowers upon the tombs. There is every reason to believe that the same customs prevailed among all the antient families of the *Goths* and *Getæ*, and their descendants; because they are so strictly *Grecian*. Offerings of flowers were among the honours paid to the dead in *Greece*; and we have before noticed a similarity of customs between the Antient *Greeks* and the present *Norwegians*, in describing the

Customs, shewing the common origin of the *Teutons* and *Greeks*.

(2) This nuisance in *Dublin* has been lately put a stop to.

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marriage-ceremonies of the latter[1]. So, with regard to this practice of strewing the places of sepulture, we find that it was customary to strew the *Grecian* tombs with herbs and flowers; with amaranths[2]; with roses[3]; with myrtle[4]; and most profusely with parsley[5]. Future travellers, pursuing this subject of the common origin of the *Teutons* and *Greeks*, will, in all probability, have to notice other more remarkable points of coincidence.

Superiority of the *Norwegian* Women.

There are many good houses in *Dramnen*. The whole valley from *Hogsund* to this place is beautiful, and the soil seems very good. The mountains are covered with firs. We met a great number of fine-looking country-girls upon the road; most of them above the ordinary stature, and very handsome. In *Sweden*, we had remarked that the men were much superior to the women; but here we should make the contrary observation, and particularly among the higher classes. At *Christiania* we had met with many elegant-looking women; but scarcely any among the men, excepting the *Ankers*, who,

(1) See p. 235 of this Volume.
(2) Philostrat. Heroïc. cap. 19. p. 741.
(3) Anacreon. Od. liii. 25. Aristænet. I. Ep. 36. p. 162.
(4) Euripides, Electr. v. 323.
(5) Polyan. Stratag. v. 12. sect. 1. Suidas, in voc. Ἐλλίνῳ στεφάνῳ.

being natives, had the air of gentlemen. The custom of smoking, so universally prevalent, greatly contributes to their slovenly and dirty appearance. As we proceeded in our journey, we observed that most of the houses have little porches, which are generally ornamented with boughs of birch or of fir. The country-women, when engaged in their labours,—and they work harder than the generality of the men in our country,—wear nothing upwards but their shifts, which however are made higher than in *England*. Sometimes a coloured handkerchief is thrown loosely over their shoulders; but they have no stays, nor any other covering for the waist. The women, in many parts of *Sweden*, work in the same time attire, and look exactly like men toiling in their shirts.

Medical properties of the *Linnæa Borealis*.

Near *Drammen*, that elegant plant, the *Linnæa Borealis*, may be found in great plenty at an earlier season of the year. Its flowers, at this time, were all gone, but we found the remains of its seed-vessels in sufficient abundance to testify its situation here. It flowers in *Norway* in the months of *June* and *July*. Its medical properties are mentioned by *Linnæus*; but according to *Gunner*, whose *Flora Norvegica* was printed at *Trönijem* in 1766, the inhabitants of that city make use of an infusion of the *Linnæa*

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Borealis as an antidote in fevers. The same author also speaks of it as affording a remedy in other disorders[1]. The *Norwegians* call it *Norisle; Noretle;* and *Narisle-grass.*

Condition of the Peasants.

The food of the labourers who work for gentlemen, or large farmers, in this country, consists of black rye-bread and salted butter or cheese, for breakfast; and boiled barley and a herring, or some other fish, with beer, for dinner. Once in a week, and sometimes twice, they have fresh meat. The common people in general live nearly in the same way, only not quite so well. Instead of beer, they have sour milk. Some, who have large families, are often in great distress. The men who work for gentlemen, or farmers, have generally a house found for them, rent free; for which they are always obliged to work for the master from whom they receive it, in preference to any other. These receive tenpence a day in summer, and eight-pence in winter; and, in harvest, a shilling, or fourteen-

(1) "Nidrosienses infuso contra febrem scarlatinam, vernacula *Naride* (*Norisle, Noretle*, vel *Naride*) non sine salutari effectu utuntur. In *Norvegia* Australiori decoctum in usu est contra scabiem. Externe etiam vel *fotu* vel *fumo* febrem scarlatinam tollunt. Svecis foliorum infusum cum lacte specificum est in doloribus ischiadicis et rheumaticis, et fotu dolores pedum in ovibus tollunt." *Flora Norvegica Gunneri*, lxvii. *p.* 37. *Nidrosiæ*, 1766.

pence. Those who have no houses, are paid a shilling in summer, and ten-pence in winter. The state of the labouring poor is improving in *Norway:* they are not so dirty as they used to be; and, consequently, there are not so many children who die young.

There is not a pound of fresh butter to be bought in *Christiania.* All persons use what they make themselves, or they salt it for keeping. The farmers who live higher up the country, go for two months, from *June* to *August,* up the mountains, to pasture their cattle. They then live in little temporary wooden sheds; and it is during these two months that they make the greatest part of their butter, which is salted, and brought to the fair at *Christiania,* in the winter, upon sledges. This butter is bought by the families in the neighbourhood, for the use of their servants; but the better sort of people eat the butter imported from *Holstein.* So little has the custom of selling fresh butter prevailed, that if a person wished to dispose of any, he would hardly find purchasers. The cattle, during winter, besides hay and straw, where these may be had, are chiefly foddered with the leaves and small branches of a species of poplar, gathered at the end of the summer, and stored for winter-provision. We were assured by

persons who had most attended to the keeping of cattle, that these leaves, stripped from the branches, are excellent food for horses, and that this kind of fodder gives them a very fine coat. By all that we could hear or see, the lower orders appeared to live as well as those in *England;* with this difference, that they eat rye-bread instead of wheaten-bread: but they are so accustomed to rye-bread, that they prefer it to that which is made of wheat, and reckon it a heartier food. Wheat is sometimes cheaper than rye. A flat cake, much in use, which is made of rye, and sometimes of oatmeal, is called *flad brii.* In the neighbourhood of *Christiania* the *house-men* have seldom land to keep a cow. Among the higher orders, the business of house-keeping, from its peculiar nature, and the largeness of the establishments, takes up so much time, that the mistresses of families, after their marriage, have no leisure to attend to any thing else. The number of servants in these families is always great; and those servants are, for the most part, an idle set, never liking to do any thing out of their peculiar department; which is, in fact, the principal reason why so many more servants are required than would be wanted in *England* for the same work.

In our return to *Christiania,* we visited the

Alum Works.

lum Works, which are near the town; and ıeir inspection only served to convince us of 'hat we had often suspected, from the sight of lum-works in our own country; namely, that *lum* is the result of a synthesis which takes lace during the decomposition of the substance onsidered as its *ore:* that is to say, that *alum* oes not exist ready formed in the *schistus* and ther mineral aggregates from which it is supoed to be obtained; but that these rocks eing exposed to decomposition by the action of xtraneous bodies, a new chemical combination ıkes place, which is exhibited in the salt called *lum.* As the subject is really curious, its illusation, as applied to a description of these *lum-works,* will not be irrelevant. They belong ɔ Mr. *John Collet,* whose hospitality we had ıtely occasion to notice. The sort of *slate,* alled the *ore,* is a dark *schistus,* distinguished om *clay-slate*[1] by its streak always remaining naltered in its colours. In its exfoliations, it eparates with polished surfaces, having a higher legree of natural lustre. Its dark colour is ntirely owing to the *bitumen* which it contains; ut it also contains embedded nuclei of *iron-*

Synthesis which takes place in the production of Alum.

(1) See Jameson's Mineralogy, Vol. I. p. 433. *Edin.* 1816.

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pyrites. The workmen affirm, that the ore is richest when these nuclei are most abundant; and the reason why this *pyritous slate* is fitter for making *alum*, we shall presently shew. If a piece of this *slate* be submitted to analysis, when taken from its native bed, it will not be found to contain *alum*: hence it is evident, that the *alum* is, as to its formation, the result of a subsequent process, which takes place in the following manner; something of a similar nature being applicable to all other works carried on for the same purpose of extracting *alum*. The ore containing the elementary constituents of *alum*, when it has been taken from the alum-rocks, where it occurs in veins, is disposed in heaps: here, being acted upon by air and moisture, a spontaneous decomposition begins, which is from time to time aided and accelerated by water, and also by urine cast upon the heaps. The *iron-sulphuret*, thus acted upon by moisture, also undergoes decomposition. As this decomposition commences, the *pyrites* becomes heated: the sulphur which it contains becomes *sulphuric acid*; and this acid entering into chemical union with the *alumina* of the decomposing slate, and the *alkali* of the urine, an *alkaline sulphate of alumina* is the result, which is, in fact, the *alum*. This salt then begins to appear, in white delicate fibres,

between the exfoliating laminæ of the slate. For its separation, and also to further the progress of decomposition requisite in effecting this synthesis, other operations are necessary: and wherever *alum-works* have been established, the process is nearly the same; that is to say, the ore is calcined; and the particles of *alumina*, being reduced to a state of greater division, are the more readily acted upon by the acid. It is then lixiviated, or soaked, for a certain time: after this, the liquor, being separated, is boiled in leaden caldrons, and suffered to evaporate: the concentrated solution containing the salt being then collected into pans, deposits the *alum*, as it cools, in large and beautiful octahedral crystals, or two tetrahedral crystals applied base to base. Commonly, however, only one tetrahedral pyramid appears as the crystalline form; the pyramids being constantly turned downwards towards the bottom of the vessel, especially those which fix themselves to the rods which are put into the liquor to multiply the surfaces. Sometimes the angles of the crystals are truncated; and these truncations take place most frequently when the *lixivium* is slightly acid. We had never seen such fine crystals of *alum* as those which we brought from this manufactory. To obtain a good crystalliza-

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tion, some precaution is necessary in attending to the degree of heat applied for the concentration of the *lixivium*. If the liquor be urged by a violent degree of heat, it loses part of its acid, becomes tasteless, and the residue is then no longer susceptible of crystallization; but the *alum* is precipitated, in the form of a very fine adhesive powder, in proportion as the water is dispersed by evaporation. To ascertain this temperature, methods of greater or less accuracy have been adopted: such as, the immersion of an egg into the liquid; the affusion of some drops of the *lixivium* upon a plate; and some other[1]. We brought away many specimens, both of the *ore* and of the *alum*. The balls of *iron-pyrites* contained in the slate have a spheroïdal form; and, in some instances, these balls are as big as a man's head.

Return to *Christiania*.

After our return to *Christiania*, the same round of hospitable entertainments again took place which we have before noticed. We were not a single day in the place without receiving invitations, either to some magnificent dinner or supper. There are public balls on a Sunday evening, once in every fortnight. These are held in a large room belonging to the principal

Public Balls.

(1) See Chaptal's Chemistry, Vol. II. p. 64. *Lond.* 1775.

ian; and the ball is followed by a supper. Tickets are given to the different persons as they enter, to regulate their places in the dance; a different set of tickets being distributed for a similar purpose at supper. The dances are, the waltz, which has always the preference, and the common *English* country-dance: but even in the country-dance the waltz is introduced: indeed it is so great a favourite, that our *English* dance would probably not be tolerated, but in compliment to the *English* who may happen to be present. Some of our popular dances were performed by the band, but in so slow and solemn a manner, that the effect became truly ludicrous. The dresses of the women are entirely *English*, and of the latest *ton*. At this time, the Governor's lady, and one or two more, made their appearance in curled crop perukes, imported from *London;* and by the buzz, which the display of the new fashion excited, the admiration and the envy it called forth, it was evident that a fresh importation would soon be the means of making these wigs a very general costume among the higher class of females. Any alteration that takes place in *London*, with regard to dress, is instantly transmitted to *Christiania:* and these changes are watched and adopted in *Norway* with a degree of avidity which is quite

Rage for *English* Fashions.

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amusing to foreigners. Nothing would be easier than to practise the most extravagant hoax, by making it to be believed that some strange grotesque mode of attire had been introduced among the fashionable belles of *London*. If a lady arrive from *England*, she has hardly set foot in *Christiania* before her toilette is beset by all the principal women, anxious to inspect and to imitate every article of her apparel.

Literary female characters are unknown: even the men rarely pretend to follow any scientific pursuit. The most learned of the inhabitants are foreigners. *Bernard Anker* was almost the only man who, as a native, engaged in and patronized literature. He was familiarly acquainted with the best *English* authors in almost every department of science, and not ill versed in the writings of other nations. He had, at the same time, some degree of knowledge of the antient classic authors. He was, indeed, in all respects, a very extraordinary man. Some travellers have spoken of his vanity: to us, this foible, if it deserved so harsh a name, served only to render his company the more amusing: not that we were amused at his expense, but because we discerned, through all his supposed egotism, a playfulness of disposition, which seemed to say, "I will be any thing, from the

Further Account of Bernard Anker.

loftiest statesman to the merriest member of a party at blind-man's-buff, sooner than my guests shall suffer *ennui* for want of conversation or amusement!"—and we felt convinced, that the loss of such a man, in such a place as *Christiania*, could never be supplied.—Alas! before our tribute can be paid to his distinguished worth, and these acknowledgments of the kindness we received from him publickly rendered, this loss has been sustained!—Of the extent of his commercial speculations it is hardly possible to convey an idea, without making a complete staistical survey of the commerce of *Norway*. His ships went to sea in whole fleets; and of the wealth of their freightage some notion may be entertained, by an account of his dealing in a single export; namely, timber. He took us to see his deal-yards, which were indeed prodigious. The present stock in them was worth 50,000*l*. From *Christiania* and *Moss* he exported deals to the amount, annually, of 180,000*l*.; and of this sum, above 100,000*l*. must be placed to the amount of the deals from *Christiania*. The deals that are sold in one year are cut three years before; and as every thing is paid for in ready money, an immense capital is required to carry on this trade in deals alone; which is, in fact, the reason that it is so profitable, and in such

Timber Trade.

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few hands. At *Frederickstadt*, from the facility of floating the timber to the saw-mills, and from the saw-mills immediately to the port, a whole year is saved, and the clear profit is thereby made much greater. The timber that comes to *Christiania* is brought by sledges, in winter. The carrying timber on sledges forms one of the principal winter employments of the farmers and *house-men*. By this it will be seen what the out-goings must have been of a merchant, engaged, as Mr. *Anker* was, in commerce. But, besides this, he had extensive iron-foundries, and three copper-mines. The number of his stewards, or clerks, amounted to forty; each of whom, upon an average, enjoyed a yearly salary of a thousand dollars. Yet, in the midst of his vast undertakings, he was so much of a philosopher, that if he could have found any other individual capable of superintending the whole, he would have consented to a loss of 50 per cent., that he might have been able to retire.

State of Religion in *Norway*.

Of the state of religion in *Norway* we had not an opportunity of making many observations. The morals of the people, especially of the lower orders, are good; and thus judging of the tree by its fruits, we saw no reason for complaint. Formerly there were many different sects in the country; and among these, some

like our Methodists: but, at present, all are united. There is nothing, therefore, of that sourness which is caused by dissent; and which, as it tends to separate the members of society from each other, tends also to sap the very foundations of Christianity;—thereby proving the truth of an observation of *Montesquieu*[1], that "the most true and holy doctrines may be attended with the very worst consequences, where they are not connected with the principles of society." One of the most essential objects of religion, when a State has many causes for hatred, is to produce many ways of reconciliation. Perhaps we ought to assign as a reason for the religious unanimity of *Norway*, that the same degree of ardour in religious matters which is found in our own country, and which in *Great Britain* has of itself given birth to the schisms that divide the members of its Christian community, has not yet been excited here. A great deal of what may be called *indifferentism* prevails on religious subjects among the *Norwegians*.

Upon the 28th of *October*, after taking leave of many of the inhabitants, Mr. *B. Anker* accom-

(1) Esprit des Lois, liv. xxiv. ch. 19. p. 161.

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Fortress of *Christiania.*

panied us in a boat round the Bay. We visited the fortress, and saw the slaves at work. This fortress is almost impregnable by land. We were much delighted with the view of the river and the country from the ramparts. The water is so land-locked, that its appearance is that of a fine extensive lake, ornamented with islands, and surrounded by blue mountains in very pleasing shapes: but as far as we could judge of their elevation by the view of them, they have not the height of the mountains which surround the lakes of *Westmoreland* and *Cumberland.* The fortress seems to be strong; and there are some fine brass cannon upon the ramparts. The garrison consisted of twelve hundred men, including some chasseurs; and there were, besides, four companies of artillery. Afterwards, having dined privately with Mr. *Anker*, we retired with him to another apartment, where an elegant dessert had been set forth in the *English* way, with decanters of wine and glasses. We conversed with our intelligent host respecting the mines we had so lately visited; and he presented to us a specimen of *native gold*, found at a mine belonging to himself at *Nummedalen* near *Kongsberg*. In the evening, to gratify our curiosity, he put on his magnificent winter-dress, consisting of a pelisse, collar,

and boots, of the choicest black furs. The pelisse was made entirely of the skins of sables, and the collar and boots of bear's-skin. We had examined the fur-shops, in the hope of finding the skins of the *Cat-Gaub*, or *Norwegian Lynx*; but the animal, although sometimes taken, is certainly very rare in the country; and it is fortunate for the inhabitants that its visits are not more frequent. We spent the last evening of our stay in *Christiania* with this benevolent man; and having supped with him in the presence of his family, bade them farewell.

CHAP. IX.

FROM CHRISTIANIA IN NORWAY, TO FAHLUN IN SWEDEN.

The Author again sets out for SWEDEN—*Execrable state of the Roads before the snow falls*—Holen—*Change in the Roads in approaching* Sweden—*Spires of* Norwegian *Churches*—Kiölstad—Hæberg—*Cataract of* Fon Fossen—Ous—Sindby—*Appearance made by a Fair at* Kongswinger—*Money of the Country*—Edsbroen—Magnor—*Boundary between* NORWAY *and* SWEDEN—*Singular instance of honesty in a Peasant*—Morast—Haga—Strand—*Homeric Torches*—*Extraordinary Costume of the Natives of* WERMELAND—*Aspect of the Country*—*Conse-*

Consequences of a recent Dearth—Hogsalla—Leerhol—Skamnäs—*Improved appearance of the land*—CARLSTAD—*Exports and Imports*—*Population*—*River* Clara—Brästegård—Molkem—*Change in the dress of the Peasants*—*Manner of keeping the Roads in repair*—Brättefors—*Boulders*—*Trees*—*Animals*—Philipstad—*Uniform appearance of the* Swedish *Towns*—*Dress of the Natives*—*Enclosures*—*Juniper-trees*—Onshytta—*Two species of* Tetrao *or Black-Cock*—Persberg—*Descent into the Iron-Mines*—*Catastrophe which befell a Female Miner*—*Bottom of the* Persberg *Mine*—*Striking scene in the Great Cavern*—*Imbedded state of the Ore*—Långbanshytta—*Machinery for the Mine-Pumps*—Saxån—WESTMANIA—Hälleforss—Nytorp—Nyakopparberg—*Minerals*—Laxbro—*Beauty of the Lakes*—*diminution of their waters*—Hogforss—Hellsion—Ostanbo—Smedbacka—*Blood-Cakes*—*Entrance of* DALECARLIA—*Varieties and luxuriance of the* Fungi *and* Musci—Bommarsbo—*Home Manufacture of Candles*—Russ-Gården—Naglarby—*General Features of* DALECARLIA—*Character of the Natives*—*Dialect*—*Antient Dance*—*Original use of the* Runic Staves—*Retreat of* Gustavus Vasa—*Approach to* Fahlun—*External Aspect of its famous Copper-Mine.*

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The author again sets out for *Sweden.*

IN the morning of the 29th of *October*, we left *Christiania* in our phaëton, and once more began our journey towards SWEDEN. For this purpose, it was necessary that we should retrace our former steps as far as *Moe*, before we took a different route; but the roads were so

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Execrable state of the Roads before the snow falls.

execrable, that we were actually employed the whole day in getting to this place, although distant only three *Danish* miles and a half from *Christiania*. We passed through a beautiful valley between *Romsaas* and *Schesmoe*, as before. The inns were bad; and this being added to the wretched state of the roads, and the little progress we were able to effect, made us think that we had acted perhaps unwisely in not waiting for the winter season, which is the best time for travelling in *Scandinavia*, especially when the country is not likely to offer any thing in its scenery remarkable either for its grandeur or picturesque beauty. When the snow has once fallen, and the sledge-way is open, a traveller, wrapped up in his furs, may prosecute his journey in the open air, not only with the utmost expedition, but with comfort. But we intended to visit mines; and, in our search for minerals and plants, wished to see as much as possible of the uncovered earth, before the woodlands of *Norway* and *Sweden*, their hills and their valleys, rocks, mountains, lakes, and rivers, were all shrouded in one vast sheet of ice and snow.

The next morning, *Oct.* 30, after a stormy night, dawned most merrily; the sun burst forth in splendour; even the feathered songsters, in

this autumnal day, were still heard upon the dripping branches:—

"And forth they passe, with pleasure forward led,
Joying to heare the birds' sweet harmony,
Which, whilom shrouded from the tempests dred,
Seem'd in their song to scorne the cruell sky.
Much can they praise the trees so straight and hie,
The sayling *pine*, the *cedar* proud and tall,
The vine-prop *elme*, the *poplar* never dry,
The builder *oake*, sole king of forrests all,
The *aspine* good for staues, the *cypresse* funerall.

"The *laurell*, meed of mightie Conquerors
And Poets sage, the *firre* that weepeth still,
The *willow*, worne of forlorne paramours,
The *eugh*, obedient to the benders will,
The *birch* for shaftes, the *sallow* for the mill,
The *myrrhe* sweet, bleeding in the bitter wound,
The warlike *beech*, the *ash* for nothing ill,
The fruitful *olive*, and the *plutane* round,
The carver *holme*, the *maple* seldom inward sound."

Holen.

In our first stage, this day, to a place called *Holen*, we turned out of the *Trönijem* road, about half-a-mile from *Moe*, into another, upon our right, leading towards the frontier of SWEDEN: and we could but remark, at the time—as if anything which had a reference to that country should in some degree manifest a *Swedish* aspect—that, from the moment this deviation occurred in our route, the roads began to

Change in the Roads in approaching *Sweden*.

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improve; becoming better and better afterwards, as we drew nearer to the *Swedish* barrier. The country here is pretty well cultivated: although undulant, when compared with the rest of *Norway* it is of a level nature. The road lay partly through forests. In viewing the churches of this country, if we might judge from mere similarity of form and structure, it would seem that all our spires, commonly called *Gothic*, with the fashion and shape of their wooden shingles, were borrowed from *Norway*. In every part of this country through which we have passed, they reminded us of *England*.

Spires of Norwegian Churches.

Kiölstad.

From *Holen* to *Kiölstad*, one *Danish* mile and a half, we journeyed over plains with good roads. The oats and peas were still standing. We observed near *Holen* several heaps, which we thought were antient *tumuli*; but could obtain no information, either from the tradition of the inhabitants, or from the history of the country, to confirm us in this belief. Before we reached *Kiölstad*, the prospect of an extensive rich level, highly cultivated, reminded us of parts of *Surrey*. From *Kiölstad*, where there is a good inn, we proceeded to *Hæberg*, through a level country, having crossed a ferry. Near *Hæberg* there is a Cataract, which we had every reason to believe would be well worth seeing: but the storm came on again; the rain fell in

Hæberg.

Cataract of *Fon Fossen.*

torrents; and the mud was so deep, that we did not attempt to gratify our curiosity. The people at *Hæberg* told us that it was about an *English* mile distant, and yet we heard distinctly the noise of its falling waters. This cataract is called *Fon Fossen*. They said that passengers seldom went to see it; which is probable enough, in a country where the grandest cataracts are things of common occurrence: but it is to be hoped that some future traveller, under more favourable circumstances, will not leave this water-fall unheeded. In going from *Hæberg* to *Ous*, we found the soil sandy. The inn at *Ous* was excellent, and the accommodations not inferior to those of *Christiania*; which is saying a great deal. We seemed to have escaped from the mud the moment we quitted *Hæberg*; for the road afterwards was very good. Here we observed some hardy urchins, with naked legs, amusing themselves by playing in a bog, totally regardless of being wet or cold. The distance from *Ous* to *Sindby* is only one *Danish* mile: we ran it in forty minutes. Near *Sindby* is a mountain containing iron-ore, and also a foundry. The road was crowded with peasants, going to the fair at *Kongswinger*. There was a fortress situate upon an eminence above *Kongswinger*, which commanded the village, the road, and the river.

Ous.

Sindby.

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Appearance made by a Fair at *Kongswinger*.

We were much entertained at this place, by the sight of the fair. A public fair, by collecting the inhabitants of the neighbourhood, and exhibiting them in the height of their gaiety and costume, cannot fail of being interesting to the curious traveller: it also serves to display the produce and commodities of the country. We bought here ptarmigans and moor-game, besides white bread and gingerbread. The dress of the men was singular, from its uniformity: they wore coats of white cloth, faced with red, and red cuffs; and red caps upon their heads. Many of the men were already more than "half-seas-over," though it was an early hour of the morning. There were many horses for sale, rode by rough-riders. For the rest, the appearance was pretty much that of an *English* fair—soldiers enlisting for recruits, and alluring the boors by a display of their martial accoutrements; drunken loobies; pretty village-lasses; clamorous hawkers; and vagrant *Italians*, with cheap looking-glasses and coloured prints.

Money of the country.

Payments are made in *dollars*, *schillings*, and *stivers*; but in *Sweden* and *Norway* the value of *schillings* and *stivers* is very different. In *Norway*, a *schilling* is the lowest coin, and answers to our halfpenny; and *stivers* are a penny each. In *Sweden*, *schillings* answer to our pence, and

stivers to our farthings. All small sums are reckoned in *stivers;* and instead of saying, for example, 'four *schillings,*' they would say 'sixteen *stivers.*' A *dollar,* silver mint, equals eightpence; and there are six in a *rix-dollar* note. The general price of *barley* and *rye,* in this country, is from four and a half to five dollars the ton. *Barley* was now selling so high as nine dollars, and *rye* at ten dollars, per ton; owing to the dearth which had happened, and the effects of which were still felt. The price of labour was twelve *schillings* a day, without victuals.

After we left *Kongswinger,* the aspect of the country was more like the grand and striking scenes of the *north of Norway;* presenting a landscape perfectly picturesque, when viewed as a whole; yet consisting of an amazing variety of parts, all of which, when examined in detail, were magnificent. There never was but one painter of sufficient capability, as the historian of Nature, for the representation of things so varied and vast in their combination—and this painter was *Claude.* But for the country here we would rather have called in the aid of *Gaspar Poussin* than of *Claude Lorrain.* It had more of the majesty and sudden transitions which mark the favourite subjects of *Gaspar*'s

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pencil, than of the long drawn valleys, the never-ending richness and sweetness, of *Claude*.

Edsbroen. At *Edsbroen*, a single house, almost as wretched as the shed as *Malmagen* where we passed the night upon coming from *Sweden* into *Norway*. We were however induced to halt for dinner, upon finding in the Post-book, in the handwriting of our friend Professor *Malthus*, the words "*good treatment*." He had passed this way, with Mr. *Otter*. The good woman of the house was moreover tidy in her appearance, and brought forth some excellent butter. To this we added our bread and cheese, and so made a hearty meal. From hence we had good roads to *Magnor*, a strange-looking place, consisting of a parcel of wooden-houses, huddled together under a mountain. We found nobody at home: all the inhabitants were gone to *Kongswinger* fair. We therefore proceeded farther; and came to an inhabited dwelling, where we found an old woman in bed, who from the age of nine to sixty-nine had been always bed-ridden. Our host was her nephew, and had himself seven children; but for many years, with a degree of tenderness amounting to a filial affection, he had attended upon and solaced the infirmities of this poor afflicted invalid. In the next stage, between *Magnor* and *Morast*, we

Magnor.

Boundary between *Norway* and *Sweden*.

Singular instance of honesty in a Peasant.

passed from *Norway* into *Sweden*, at the distance of half a *Danish* mile from *Magnor*. An avenue cut through the forest marks the boundary between the two countries. Just before passing this boundary, hearing somebody calling behind us, we halted. It was the identical peasant at whose dwelling we had stopped, and whose charitable conduct we have noticed. He had galloped after us with a pocket-book, containing a considerable sum of money, which we had left upon his table; having taken it out to bestow something upon his poor family. A very little more speed on our part, or less of diligence on his, and we should have been out of his reach: and if this had been the case, few readers would regret that such singular honesty, in the midst of such poverty and goodness, had met with a larger reward than we could then afford to bestow. It was not the first symptom which we have had to notice of our approximation to that land of honesty, SWEDEN: and whether the individual we have alluded to were a *Norwegian* or a *Swede*, we are well assured, that, beyond the limits of these two countries, similar instances of regard for the distinctions between '*mine*' and '*thine*' will not be always so scrupulously regarded. At the place where the avenue has been cut, a stone is erected, which

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exhibits on one side of it the arms of *Denmark;* and on the other, those of *Sweden:* and about a quarter of a *Swedish* mile farther on, before reaching the end of this stage, there is the Gate and Custom-house on entering the *Swedish* territory.

Morast.

Finding no accommodation at *Morast,* the next relay, we proceeded, chiefly amidst woods of red fir, with a few openings of cultivation, through *Haga,* to *Strand;* where we arrived at midnight; being guided in the woods by peasants on foot, carrying flambeaus made of deal splinters. The inn at *Strand* was bad indeed; but the truth is, that between *Magnor* and *Carlstad* there is no place of rest for travellers which can be called by the name of an Inn: they are wretched hovels, tenanted by the poorest peasants. At *Strand,* a whole crop of cabbages was hanging from the roof, to dry.

Haga. Strand.

Homeric Torches.

Extraordinary Costume of the Natives of *Wermeland.*

Upon the first of *November,* we left *Strand,* and set out for *Prestbol.* The dress of the natives exhibited a curious change, as we entered the province of *Wermeland.* The peasants were all in black, as if for a general mourning; and this costume, added to their poverty and the sterile aspect of their country, had a melancholy appearance. We hardly entered a house without seeing some lamentable object, either

sick or deformed. The soil itself is of a nature to bid defiance to cultivation: it consists of loose masses of stone, which can neither be removed, nor rendered in any way productive. It seemed to be the very region of poverty and despair, denuded and smitten by the hand of Heaven. In perusing the manuscript journal of a friend who had travelled the same route only three months before, we found similar observations made as to the melancholy aspect of all this district, and to the impressions made upon his mind upon seeing all the inhabitants dressed in black clothes. When we entered *Sweden* from *Denmark*, we were struck with the superior liveliness of the *Swedes*; but in entering it now from *Norway*, we received a very different impression. To add to the general wretchedness of the country, a greater dearth had prevailed during the former winter than the oldest person ever remembered. *Oats* were six dollars a ton, which commonly sell for two or three. *Barley* and *rye* were scarcely to be had at any price. The people had saved themselves from starving, by eating the bark-bread, and a bread which they said they made of a kind of grass: this grass we afterwards found to be sorrel[1]. The fir-bread had given to many

Aspect of the Country.

Consequences of a recent Dearth.

(1) *Rumex acetosa.*

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of the inhabitants an unhealthy appearance: they found the sorrel-bread, upon the whole, more salutary. The general effect of eating fir-bread is, to produce a yellow, pale, and unhealthy countenance. In every thing, the appearance of the people was strangely contrasted with that of the *Norwegians*. The latter wear red caps. The *Swedes*, in their broad-brimmed hats, without any buttons upon their black coats, looked like so many Quakers in mourning.

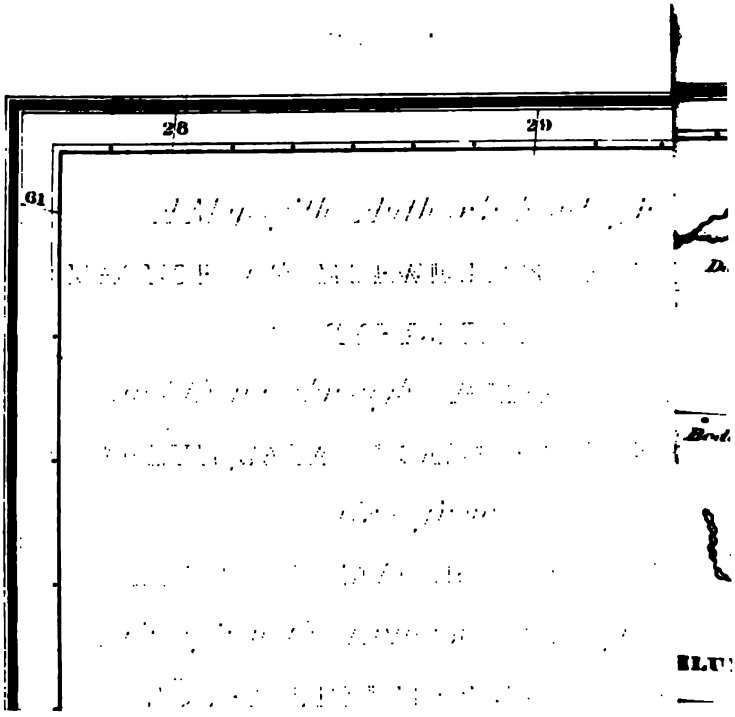
Hagvalla. Leerhol.

Skamnäs.

Presently after leaving *Strand*, we had a fine view of a lake which discharges its waters into the *Wener*. We passed *Hogvallä*, *Leerhol*, and *Skamnäs*. In the forests were juniper-trees, growing to a very great size. We were ferried over to *Skamnäs*; the passage being nearly half-a-mile wide. The view of the lake from the post-house here was very fine. The country was more open and cultivated in going to *Hogboda* and *Prestbol*; interspersed with small lakes, the shores of which were ornamented with *fir*, *birch*, and *alder*. Two sorts of *alder* are very common in *Sweden*, as well as in *Norway*; growing often in very dry ground. It was dark before we arrived at *Prestbol*. We found here another miserable inn.

Improved appearance of the land.

The next morning, *November the second*, we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61

descended into plains which reminded us of *Norfolk* and *Suffolk*. The appearance of the country was greatly improved. We changed horses at *Ilberg*; and reached CARLSTAD, the capital of *Wermeland*,, upon the *Wener Sea*[1], by eleven o'clock in the forenoon. The view in the approach to this city is very pleasing. We entered it by a bridge[2]. The houses are covered with turf, as in all the towns leading from *Wenersborg* to *Stockholm*, on the southern side of the lake. The inn here was very dirty; yet *Carlstad* is a much finer town than *Wenersborg*: the streets are broad and long, and contain many good houses; and a general appearance of activity and business seems to denote a thriving

Carlstad.

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(1) See the Map in the preceding Volume.

"Equitum lustrationibus nundinisque festo D. Pauli et Luciæ celebris, quæ etiamnum a Gothenburgensibus aliisque vicinis magno cum emolumento frequentantur."—*Descriptio Sueciæ, tom.* I. *p.* 442. *Lugd. Bat.* 1706.

(2) It is, in fact, built upon an island. (*See the Map.*) "The river *Clara*," says *Thomson*, in his account of this place, "runs through this province, and falls into the Lake *Vener*. It is a large river, but, like the *Dal*, runs so slowly, that it has more the appearance of a lake than a river. Some miles before it falls into the *Vener*, it divides into two branches, enclosing the Island of *Tingwalla*. At the northern extremity of this island stands the town of *Carlstad*; so called because it was built by *Charles* IX. This town is a Bishop's See. Like the other *Swedish* towns, it is built of wood. The streets are broad and straight, and the number of inhabitants about 1500. It carries on a commerce of wood and iron across the Lake *Vener*."—*Thomson's Trav. in Sweden, ch.* xx. *p.* 373. *Lond.* 1813.

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place. The Episcopal Palace is built of wood, as are all the other houses. The Governor of the province also resides here. Both *Carlstad* and *Philipstad* were built by *Charles the Ninth*; the first being called after his own name, and the last after the name of his son *Philip*. The principal productions of the mines and forests of *Wermeland* are here shipped for *Gothenburg*; and the exportation of bar-iron and timber may be considered as the staple commerce of *Carlstad*. The importations consist of provisions and other necessaries. Dirty inns are often the dearest: and this we found to be the case here. Every thing was charged at most exorbitant prices: but this is not a cheap place for any thing beyond common necessaries. Loaf-sugar sold in the shops as high as a rix-dollar the pound, being all of it imported from *England*[1].

Exports and Imports.

Population.

The accounts given to us of the population of *Carlstad* were so discordant, that we could place no reliance upon them; some estimating it at 3000, and others at 1400: we were disposed to credit the last, rather than the first; and this number nearly coincides with the statement

(1) See page 230 of the preceding Volume, for an account of a manufactory for refining sugar at *Gefle*, belonging to Mr. *Hennis*; being the first of the kind established in *Sweden*.

already cited in a note. There is a square here, as at *Wenersborg*, surrounded by wooden houses, with a very neat appearance.

We left *Carlstad*, on Sunday, *November the third*, passing the north-eastern branch of the *Clara*, by some called the *Carls Elf*[2], by a large stone bridge with iron rails, erected in a light and elegant style of architecture. It was a very foggy morning, which prevented our having some fine views of the Lake *Wener*. The Governor had sent for us, demanding a sight of our passport: we therefore called at his house, as we were leaving this wooden city. The road leading to *Brästegård* lies, for the most part, by the side of lakes, which discharge their waters into the *Wener*, by means of a small river. From *Brästegård* we came to *Molkem*; near which place there is a large lake, the village being prettily situate at the end of it. The church service had just ended; and a vast throng of the peasants filled the post-house, impatient to get their drams, according to custom, as a morning-whet after prayers. We saw no symptoms of intoxication: but this is the *Swedish*

River Clara.

Brästegard Molkem.

(2) "Urbs hic unica *Carolostadium*, à Rege Carolo IX. denominata, occupat insulam, ab ingenti flumine *Carls Elf*, ubi lacui *Wener* miscetur, factam, in quo ipso Wermiæ meditullio sitam."—*Amœnit. Regn. Suec. tom.* I. *p.* 442. *L. Bat.* 1706.

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custom. Many of them came from a great distance; and a little brandy, as one of them jocularly told us, helped to digest the sermon, and to sharpen their appetites for dinner. The road was crowded with little carts, each drawn by one horse, conveying the different families to their several homes; and with the youth of both sexes, who were pacing on foot, by the side of their parents. Here a change was again visible in the costume. In the north of *Wermeland*, as we have described it, the dress of the peasants was uniformly black. It was also very uniform here: but the colours were grey or blue; all blue, or all grey, as the parties were from different districts. From *Molkem* to *Brättefors*, the distance is fourteen *English*, or two *Swedish* miles; the roads being of that incomparable nature which we have so often described in *Sweden*; but to which frequent allusion may be made, that the Reader may bear in his mind the actual state of the country, and the industry of its inhabitants. Incessant rain had fallen for some time before, without effecting the smallest change in the excellent condition of these roads. The material for making them is always the same; a fine gravel, covering the broad and flat way. We did not consider the perfect state of the *Swedish* highways as owing so much to the

Change in the dress of the Peasants.

Manner of keeping the Roads in repair.

material used, as to the manner adopted in making them. There is nothing of promiscuous work carried on, by way of keeping them in order; nor any thing like a proposal set on foot for mending them by contract; enabling adventurers to enrich themselves, by jobbing, at the public expense. Each peasant has a portion of the road assigned, by measure, to his peculiar care: and these portions are marked out by little boards, bearing the names of the peasants to whose management they have been entrusted: by which means emulation is excited among them; every peasant being stimulated, by a degree of pride, to surpass, if possible, in his allotment, the work of his neighbour. We have known them, when they have attended us with their horses, point with exultation to the condition of that part of the road which has been under their care. At *Molkem* we dined in a neat new-built house, upon the game we had brought with us, and, as usual, upon our bread and cheese. Near *Brättefors*, our fore-axle broke: we therefore left the servants behind, to take care of the phaeton, and to have it mended; and went forward, in a peasant's cart, to the inn; where we hired two more carts to convey us to PHILIPSTAD. *Brättefors* is black with iron forges; and the houses, some of which are

Brättefors.

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good, are painted red. The road to *Philipstad* from *Brättefors*[1] passes many iron-foundries, and leads the traveller through finer scenery than the south of *Sweden* usually exhibits. The soil, if it may bear the name of soil, is altogether incorrigible: it consists of enormous loose fragments of bare granite, piled together till they become mountains, and form steep precipices. Upon these boulders there appears hardly a trace of any vegetable earth, or even of any kind of covering; yet they are thickly planted with forests of tall *pines*, *birch*, and *juniper* trees, which, in a marvellous manner, have found nourishment for their roots in the interstices between the boulders. Wolves are very numerous here: bears not so frequent. But of all quadrupeds, the most abundant is the beautiful grey squirrel, which is seen skipping in the trees, and continually crossing the road. Sometimes, regardless of the traveller, these playful

Boulders.

Trees.

Animals.

(1) For the curious minerals produced in the whole of this mining district, but which did not occur in this route, the reader is particularly referred to *Engeström's Guide du Voyageur aux Carrières et Mines de Suède; Stockholm*, 1796. Also to *Thomson's Travels in Sweden*, c. 20. p. 374. *Lond.* 1813. According to *Engeström, Journée* III. p. 48. there was found in *Brättefors* Mine, about the middle of the eighteenth century, a small vein of *ferruginous clay*, crossing the vein of *iron*, very rich in *native silver*, partly massive globular and ramified, and partly mixed in fine grains in the clay; which, moreover, contained a good deal of *kupfer-nickel*, and a little ore of *cobalt*.

little animals, being perched upon a bough near the road, will tumble into all sorts of attitudes, as if purposely to invite his notice, and to entertain him with their gambols.

Philipstad.

It was nearly dark before we arrived at PHILIPSTAD. We could perceive some country-seats most delightfully situate upon the shores of the little lake, at the northern extremity of which the town is placed. Although not so large as *Carlstad*, it seemed neater in its appearance. The view of it across a part of the lake, in the approach to the town, affords a most pleasing prospect; and except in such circumstances of situation, there is little variety in the aspect of any of the *Swedish* towns. Having once figured to the imagination a number of low red houses, of a single story, each covered with turf and weeds, a picture is presented to the mind which will serve to give a correct idea of all the oppidan scenery of *Sweden*. There is no other country in the world, excepting perhaps *Russia*, that exhibits, over an equal extent of territory, such unvaried uniformity; and this, not only in the appearance of its buildings, but also of its inhabitants and landscapes. The dress of the women, from one extremity of the kingdom to the other, is nearly the same—a scull-cap, sitting close to the crown, edged with

Uniform appearance of the *Swedish* towns.

Dress of the Natives.

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a little stiff lace; the hair being drawn as tight and straight as possible beneath the cap, from all parts of the head, as if to start from the roots: add to this, a handkerchief, thrown over the cap only when they go out; a jacket; short petticoats; stockings of coloured or white woollen; and high-heeled shoes;—this is the general costume of the *Swedish* women. Then, for the landscape—one unbroken boundless forest; varied only in the uniformity of its aspect by little patches of cultivated land, enclosed by fences formed everywhere in the same manner, by sloping splinters of deal fastened by withys against upright poles[1]. In fact, there is no other kind of fence used for enclosures over all *Sweden*, *Lapland*, *Finland*, and *Norway*.

Enclosures.

Philipstad is supported entirely by the mines in its neighbourhood: its commerce is consequently the same as that of *Carlstad*. It has been often destroyed by fire. The Church is a handsome white building, and looks well in the approach to the town. The environs are well wooded with *fir*, *birch*, and *alder*. There are here some good houses, but they are all painted of a red colour. The streets are paved. Most of the houses are covered with masses of iron

(1) See the Vignette to this Chapter.

slag, laid on to keep down the birch-bark upon the roofs.

The next day, *Monday, Nov. 4,* our servants arrived at twelve o'clock with the carriage, which had been well repaired, and, as they said, rendered fit for any journey: but they had lost our bundle of fine *juniper*-sticks, which we had cut in the woods as we passed, and prized very much, as curious memorials of our journey, on account of their straight tapering shape, and the beauty of the bark which covered them. Although this loss, it might seem, would be easily repaired amidst the *Scandinavian* forests, we never afterwards saw the *juniper* flourishing in such perfection as upon the frontiers dividing the south of *Sweden* from *Norway;* where it rises, in a sandy soil, to the height of twelve, sixteen, and even eighteen feet. Its branches are more erect than those of the common *juniper,* the leaves narrower and in more acute points, and are placed farther asunder on the branches: the berries also are larger. This *Swedish* or *Tree-juniper* was considered by *Miller* as a distinct species from the *Juniperus communis;* but they are only varieties of the same species[1].

Juniper Trees.

We left *Philipstad* about four o'clock P. M.;

(1) *Martyn's* Edit. of *Miller's* Dict. Vol. I. Part 2. *Lond.* 1807.

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Onshytta.

and proceeded one stage, to *Onshytta.* Near this place are the celebrated *Iron*-mines of PERSBERG, which it was our object to visit. For this purpose we waited on an officer of the mines, called the *Brúks Patron*, or Intendant; and also upon the Director of the works; begging also to see any collection of the *Persberg* minerals which might be in the place. We were not surprised at being told that no one interested himself in making collections; but that we might collect them ourselves, if we thought proper, at the mines. Having obtained also permission to descend into the principal mine, and to inspect the works, we fixed upon nine o'clock of the following day for making this visit; when the Intendant volunteered his services, and offered to accompany us. We then returned to the inn, where we found a very comfortable room; and spent the rest of the evening in writing our journals from the notes we had made, and in making preparation for our subterraneous expedition. Here we saw that remarkable bird, which, in *Norway*, is called, by those who speak the *English* language, the *Wild Turkey:* being, however, not much like a turkey; but properly ranking at the head of the whole genus *Tetrao*, which is seen in such perfection among all the forests of *Sweden* and *Norway*. It

Two species of *Tetrao* or *Black-cock.*

is the largest of the two kinds of *Tetrao*, commonly known by the name of *Black-cock*, and is called *Tjader* by the *Swedes*. The male is called simply *Tjader*; but the female, *Tjader héna*, or the *Tjader Hen*. This magnificent bird, of which we saw the cock in full feather, is the *Tetrao Urogallus* of *Brünnichius*[1]. The *Norwegians* call it *Tiur*, *Teer*, and *Tedder*. We saw also with it the other kind of *Black-cock* found in *Norway*, which enabled us to compare the two together. This last is the common *Black-cock*. The male is called by the *Norwegians*, *Orre*, and *Orr-fugl*; and the female *Orre héna*. It is the *Tetrao Tetrix* of ornithologists[2]. Both one and the other are found in tolerable abundance in the woods. Of this beautiful genus *Tetrao*, so valuable as an article of food, and so much esteemed by epicures, no less than eight species are common upon the *Scandinavian* mountains.

Persberg

On *Tuesday*, *Nov.* 5, we visited *Persberg*, distant a quarter of a *Swedish* mile from *Onshytta*. There are here not less than thirteen different mines, all worked for *iron*, which have no communication with each other. To inspect the whole of them would require at least three days

(1) Ornithologia Borealis, *Brünnichii*, p. 59. *Hafniæ*, 1764.

(2) Ibid. The author has seen the *Tetrao Tetrix* served at a *London* dinner-table: it had been sent as a present from *Norway*.

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of active exertion. The hill, or mountain, in which these mines are situate, is itself entirely composed of veins and beds of iron-ore. A careful examination of one of them may, therefore, serve to afford a tolerably accurate knowledge of the whole. The Intendant who had so politely offered his services upon this occasion, as politely withdrew from the appointment; not being desirous to follow us into the depths of the mine, which he saw we were resolved to explore. However, he left us some stout miners to be of the party; men much better suited for the undertaking, and likely to be much more serviceable. For some time after our arrival, we were employed in collecting minerals from the vast heaps of excavated matter, and from the labourers in the works. The list of these will be found in a Note[1]; being calculated only to interest the chemical or mineralogical reader. Afterwards, we set out to examine the oldest and the largest of these mines. They are all of

(1) Octahedral crystals of iron-oxide in chlorite.
Foliated sulphuret of bismuth.
Sulphuret of iron, crystallized in the octahedral and cubic form.
Asbestus and amianthus, imbedded in green serpentine.
Steatite and pot-stone.
Crystallized carbonate of lime.
Globular fibrous carbonate of lime.
Dark green foliated mica.
Leelite—sometimes called flesh-coloured horn-stone.
Hornblende.
Crystallised quartz.
Epidote.

them private property, divided into a great many shares. The miners work by measure; earning daily a sum equal to about two shillings *English*; that is to say, half a rix-dollar. They are paid weekly.

The author's visit to these mines was made after he had personally inspected many of the principal works of the same nature in other countries, and especially in his own. For the last ten years of his life, he had been much in the habit of seeing similar works: it is not therefore owing to any surprise at the novelty of the scene before him, that he has now to mention the astonishment he felt when he arrived at the mouth of one of the great *Persberg* mines: but he is fully prepared to say of it, and with truth, there is nothing like it in all that he has beheld elsewhere. For grandeur of effect, filling the mind of the spectator with a degree of wonder which amounts to awe, there is no place where human labour is exhibited under circumstances more tremendously striking. As we drew near to the wide and open abyss, a vast and sudden prospect of yawning caverns and of prodigious machinery prepared us for the descent. We approached the edge of the dreadful gulph whence the ore is raised; and ventured to look down; standing upon the verge of a sort of

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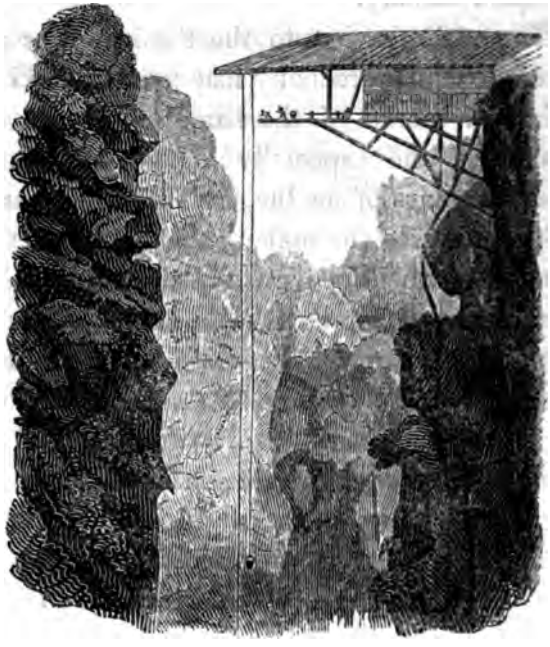
platform, constructed over it in such a manner as to command a view into the great opening as far as the eye could penetrate amidst its gloomy depths: for, to the sight, it is bottomless.



Immense buckets, suspended by rattling chains, were passing up and down: and we could perceive ladders scaling all the inward precipices; upon which the work-people, reduced by their distance to pigmies in size, were ascending and descending. Far below the utmost of these figures, a deep and gaping gulph, the mouth of

the lowermost pits, was, by its darkness, rendered impervious to the view. From the spot where we stood, down to the place where the buckets are filled, the distance might be about seventy-five fathoms; and as soon as any of these buckets emerged from the gloomy cavity we have mentioned, or until they entered into it in their descent, they were visible; but below this point they were hid in darkness. The clanking of the chains, the groaning of the pumps, the hallooing of the miners, the creaking of the blocks and wheels, the trampling of horses, the beating of the hammers, and the loud and frequent subterraneous thunder from the blasting of the rocks by gunpowder, in the midst of all this scene of excavation and uproar, produced an effect which no stranger can behold unmoved.

Descent into the Iron Mines.

We descended with two of the miners, and our interpreter, into this abyss. The ladders, instead of being placed like those in our *Cornish* mines, upon a series of platforms as so many landing-places, are lashed together in one unbroken line, extending many fathoms; and being warped to suit the inclination or curvature of the sides of the precipices, they are not always perpendicular, but hang over in such a manner, that even if a person held fast by his hands, and if his feet should happen to slip, they would fly

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off from the rock, and leave him suspended over the gulph. Yet such ladders are the only means of access to the works below: and as the labourers are not accustomed to receive strangers, they never use the precautions, nor offer the assistance, usually afforded in more frequented mines. In the principal *tin*-mines of *Cornwall*, the staves of the ladders are alternate bars of wood and iron: here they were of wood only, and in some parts rotten and broken, making us often wish, during our descent, that we had never undertaken an exploit so harzardous. In addition to the danger to be apprehended from the damaged state of the ladders, the staves were covered with ice or mud; and thus rendered so cold and slippery, that we could have no dependence upon our benumbed fingers, if our feet failed us. Then, to complete our apprehensions, as we mentioned this to the miners, they said,—"Have a care! It was just so, talking about the staves, that one of our women[1] fell, about four years ago, as she was descending to her work." "Fell!" said our *Swedish* interpreter, rather simply; "and pray what became of her? "*Became of her!*" continued

Catastrophe which befell a Female Miner.

(1) Females, as well as males, work in the *Swedish* mines.

the foremost of our guides, disengaging one of his hands from the ladder, and slapping it forcibly against his thigh, as if to illustrate the manner of the catastrophe,—"*she became* (**pankaka**) *a pancake!*"

As we descended farther from the surface, large masses of ice appeared, covering the sides of the precipices. Ice is raised in the buckets with the ore and rubble of the mine: it has also accumulated in such quantity in some of the lower chambers, that there are places where it is fifteen fathoms thick, and no change of temperature above prevents its increase. This seems to militate against a notion now becoming prevalent, that the temperature of the air in mines increases directly as the depth from the surface, owing to the increasing temperature of the earth under the same circumstances and in the same ratio; but it is explained by the width of this aperture at the mouth of the mine, which admits a free passage of atmospheric air. In our *Cornish* mines, ice would not be preserved in a solid state at any considerable depth from the surface.

Bottom of the *Persberg* Mine.

After much fatigue, and no small share of apprehension, we at length reached the bottom of the mine. Here we had no sooner arrived, than our conductors, taking each of us by an arm,

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hurried us along, through regions of "thick-ribbed ice" and darkness, into a vaulted level, through which we were to pass into the principal chamber of the mine. The noise of countless hammers, all in vehement action, increased as we crept along this level; until at length, subduing every other sound, we could no longer hear each other speak, notwithstanding our utmost efforts. At this moment we were ushered into a prodigious cavern, whence the sounds proceeded; and here, amidst falling waters, tumbling rocks, steam, ice, and gunpowder, about fifty miners were in the very height of their employment. The magnitude of the cavern, over all parts of which their labours were going on, was alone sufficient to prove that the iron-ore is not deposited in veins, but in beds. Above, below, on every side, and in every nook of this fearful dungeon, glimmering tapers disclosed the grim and anxious countenances of the miners. They were now driving bolts of iron into the rocks, to bore cavities for the gunpowder, for blasting. Scarcely had we recovered from the stupefaction occasioned by our first introduction into this *Pandæmonium*, when we beheld, close to us, hags more horrible than perhaps it is possible for any other female figures to exhibit, holding their dim quivering tapers to our faces, and

Striking scene in the Great Cavern.

bellowing in our ears. One of the same sisterhood, snatching a lighted splinter of deal, darted to the spot where we stood, with eyes inflamed and distilling rheum, her hair clotted with mud, dugs naked and pendulous; and such a face, and such hideous yells, as it is impossible to describe:—

> Black it stood, as Night—fierce as ten Furies—
> Terrible as Hell——

If we could have heard what she said, we should not have comprehended a syllable: but as several other *Parcæ*, equally *Gorgonian* in their aspect, passed swiftly by us, hastening tumultuously towards the entrance, we began to perceive, that if we remained longer in our present situation, *Atropos* might indeed cut short the threads of our existence; for the noise of the hammers had now ceased, and a tremendous blast was near the point of its explosion. We had scarcely retraced with all speed our steps along the level, and were beginning to ascend the ladders, when the full volume of the thunder reached us, as if roaring with greater vehemence because pent amongst the crashing rocks, whence, being reverberated over all the mine, it seemed to shake the earth itself with its terrible vibrations.

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Imbedded state of the Ore.

We were afterwards conducted into other cavities of the *Persberg* works. The whole hill of *Persberg* may be considered as a vast deposit of iron-ore; the ore lying in separate beds. The miners work in spacious caverns, like those of our salt-mines, at *Sandbach*, in *Cheshire*; excepting that the interior of our salt-mines, containing neither glaciers nor cataracts, nor dreadful precipices to be scaled by means of rotten ladders[1], nor filthy wretched females doomed to do the work of men, are rather pleasing than intimidating in their appearance. The ore of the *Persberg* mines consists of *magnetic iron-oxide*, either in fine or in coarse grains. Those mines which we saw, and in which, working with our own hands, we obtained specimens of the ore, exhibited this *oxide* in a state of very remarkable association with *garnet;* insomuch, that *garnet* may be considered here, not only as a leader to the ore, but as the ore itself; many of the specimens wrought for the *iron* they contain being masses of *garnet*. The whole district is of primitive formation; the rocks being of *gneiss* or of *granite*, containing more or less of *hornblende*,

(1) The descent into the *Cheshire* salt-mines is by means of buckets, in which ladies may be conveyed into the mine, and back again, with the utmost safety and cleanliness.

and, in some places, beds of primitive *limestone*[2].

As soon as we had concluded our examination of the *Persberg* mines, we went to the Inspector's house, where we packed up our minerals. Afterwards, returning to the inn at *Onshytta*, we set off for *Saxån*. The whole of this part of *Wermeland* is throughout perforated by mines.

Långbanshytta.

About nine *English* miles from *Onshytta*, at a place called *Långbanshytta*, there is an exceeding rich mine of *iron ore*, of which the principal part is the *per-oxide* called *hæmatite*: it lies to the north of the road leading towards *Saxån*; but we could not bestow time enough for visiting this mine. The mineralogical traveller will however be wise, if he do not follow our example in this respect. He will find few mines

(2) "Montana est" (observes the author of the *Amœnitates Regnorum Sueciæ*, with reference to this province,) "et sylvestris. Metalli fodinas, et nuper admodum ditissimam cupri venam inventam habet." (*Deliciæ, sive Amœn. Regn. Suec. tom.* I. *p.* 442. *L. Bat.* 1706.)

"The whole of *Vermeland*," says *Thomson*, "with the exception of a small track on the borders of the *Vener*, is primitive, and may be said to consist entirely of *gneiss* rocks, similar to those which constitute the neighbourhood of *Gotteburg*. Here and there occur beds of mica-slate, limestone, primitive grünstone, &c.; but none of them, as far as I could learn, are of any great extent. It is to the *mines* which abound in this province that it owes its chief value." *Thomson's Trav. in Sweden*, *p.* 374. *Lond.* 1813.

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richer in interesting minerals[1]. He should also be aware, that at the distance of ten *English* miles and a half from *Philipstad*, there are the *iron*-mines of *Normark*, in which the minerals are neither so curious nor so varied and abundant as at *Långbanshytta;* but the mines themselves

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(1) It has been wrought upwards of three hundred years. It is near a lake called *Långban*. According to Dr. *Thomson*, (*Trav. in Sweden*, p. 378,) it lies in a *limestone* rock. The minerals found in this mine are:

1. Sub-varieties of hæmatite.
2. Magnetic iron-oxide, granular, fibrous, and crystallized. Also micaceous iron and specular iron ore, similar to that from *Elba*, yet attracted by the magnet.
3. Sulphuret of iron.
4. White manganese spar, globular and radiated.
5. Iron spar.
6. Ferruginous scintillating sulphate of lime.
7. Sparry carbonate of lime.
8. Red and brown jasper, according to *Engeström*. According to *Thompson*, this is iron flint.
9. Garnets, red and yellow; containing from 15 to 21 per cent. of iron. (*Thomson.*)—Dr. *Thomson* mentions a garnet found here, containing, besides 26 per cent. of oxide of iron, above 8 per cent. of oxide of manganese, lime, carbonic acid, and soda: the silica amounting to 35.20.
10. Pycnite.
11. Tourmaline.
12. Green and yellow serpentine.
13. Mountain-leather, mountain-cork, and other varieties of asbestus and amianthus.
14. White-clay.
15. Black massive hornblende.
16. Epidote.
17. Sahlite.
18. Petroleum, and glance-coal.
19. Red silicate of manganese.

are very antient, and well worthy of his attention[2]. A little more than an *English* mile from *Normark* are also the *iron*-mines of *Taberg*; and they are rendered remarkable for the singular varieties of *asbestus*, particularly the beautiful *amianthus* found there[3]. In returning to *Philipstad*,

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(2) It lies in mica-slate. Limestone, containing manganese and hornblende, occurs in this mine. (*Thomson.*)—Its other minerals are:

1. Magnetic iron-oxide.
2. Sulphuret of lead, crystallized.
3. Varieties of crystallized carbonate of lime.
4. Varieties of asbestus. *Mountain-leather, mountain-cork.*
5. Dark foliated mica.
6. Dark-green fibrous hornblende.
7. Crystallized sahlite.
8. Red garnet.

Dr. *Thomson* (*Trav. in Sweden, p.* 375) mentions a peculiar mineral found in this mine, which has not yet been named. It was examined, he says, by *Gahn*, who found it to contain muriatic acid. It occurs crystallized in regular six-sided prisms: its colour is yellowish brown, passing into greenish: by transmitted light, it appears greenish yellow. Its specific gravity equals 3.081.

(3) This iron mine lies also in mica-slate. The ore is magnetic iron-oxide. Its principal minerals, according to *Engeström* and *Thomson*, are:

1. Black granular magnetic iron.
2. Sulphuret of zinc.
3. Cubic sulphuret of iron.
4. Lime-spar.
5. Micaceous steatite, and serpentine.
6. Dark-green foliated mica.
7. Varieties of amianthus and asbestus.
8. Native bismuth.
9. Sulphuret of copper.
10. Magnesian carbonate of lime. (*Bitter-spar.*) Also light-blue *bitter-spar* mixed with *asbestus*.

 11. Dark-

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after visiting these mines, he will also find the *iron*-mine of *Agegrufvan*, which lies close to the road[1]. Leaving *Onshytta*, we were struck by the appearance of a most curious mechanical contrivance, which presented itself in our road, for working the mine-pumps. It consisted of a most extensive combination of levers, all in motion, working parallel to each other by means

Machinery for the Mine-Pumps.

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11. Dark-green chlorite.
12. Light-green asbestiform actinote.
13. Light-green glassy tremolite.
14. Silicate of magnesia, called *greenish-grey steatite*, consisting of

Magnesia	31
Silica	48
Iron	5
Volatile matter . . .	16
	100 *Geijer*.

(1) The mines of *Age*, called *Agegrufvan*, are situate about seven miles from *Philipstad*. (*Thomson's Trav. in Sweden*, *p.* 377.) Like the preceding, they consist of *iron-ore*, which occurs in a rock of mica-slate. The minerals found here, are:

1. Massive and granular magnetic iron-oxide.
2. Many varieties of lime-spar.
3. Garnet, in regular dodecahedral crystals.
4. Dark foliated mica.
5. Black foliated hornblende.
6. Epidote, crystallized in quartz.
7. Massive epidote.
8. Various forms of asbestus.
9. Hydrates of silica, of various colours.
10. Crystallized quartz.

For an account of other mines and minerals in the Province of *Wermeland*, the Reader is referred to *Engeström's Guide aux Mines de Suède*; *Stockholm*, 1796: but for much better, and more scientific, information, to *Thomson's Travels in Sweden*. *Lond.* 1813.

of water, being separated by transverse bars resting upon upright posts with pivots. These

bars were about eight or ten feet in length; but the side-levers extended to mines out of our sight. The stream and wheel for giving motion to these levers was on the left-hand side of the road; under which, in one place, the levers passed, and, appearing again on our right, extended over the surface of the ground as far as we could see. Their appearance all in motion, without any person being visible near them, was very extraordinary; for it is difficult to conceive how so much machinery, consisting of such numerous parts, can be preserved in free action and without injury, remote from all observation. We afterwards passed several of these water-works, affording astonishing proofs of the extensive mining operations here carried on. They all move alike, by a successive series of impulses.

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Saxån.

Our journey from *Onskytta* to *Saxån* was over a wild and mountainous district; but the roads were excellent. Quantities of slag and scoriæ, in our approach to *Saxån*, denoted the presence of *iron-foundries*, to which it owes its support. Part of the *iron*-ore from *Persberg* is brought here, to be smelted and forged: it is then conveyed, in the form of *bar-iron*, to *Christinehamn*, and thence, by the *Lake Wener*, to *Trolhætta* and *Gothenburg*. This trade supports the village of *Saxån*, which consists of a rich and good inn, and a few respectable farm-houses.

Westmania.

On *Wednesday, Nov.* 6, we left *Saxån* about seven A.M. The morning was very wet and cold. We had proceeded about half a *Swedish* mile in our day's journey to *Laxbro*, when we passed the boundary of the province of *Wermeland*, and entered into *Westmanland*, or, as it is sometimes called, *Westmania*; the natives of which province speak the *Swedish* language in greater purity, and with a better accent, than any other. Our road lay through forests. In going to *Nytorp*, our first relay, the appearance of beautiful lakes, like those in the north of *Sweden*, engaged our admiration. We often wished to halt, and make drawings of them. The timber in these forests runs to a prodigious height, but the trees are slender, and by no

means equal in bulk to those we had seen in other provinces. We passed iron-foundries and sawing-mills. From *Saxân*, the whole way to the frontier of *Dalarne*, or *Dalecarlia*, in journeying through *Westmanland*, the traveller constantly meets with mines or iron-foundries: and it is worthy of remark, that, whenever these appearances take place, there are also evident marks of the blessings of industry, in the neatness and comfort of the dwellings near them, and sometimes in the signs of wealth and of elegance which may be observed. These subterraneous treasures, and their consequences, in employing so many foundries, and in requiring so much aid of machinery for working the mines, are among the most profitable possessions of *Sweden*. Their evident importance in the prosperity to which they give rise, throughout districts that would otherwise be deserted, ought to serve as a lesson, to the inhabitants of other countries, to seek diligently for such sources of industry and opulence, where the features of the country are unfavourable to agriculture; since it is the same Providence which renders productive to human labour the most bleak and barren rock, and the most fertile vegetable soil. We had left *Wermeland* with feelings very different from those with which

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we entered it from *Norway*; where the barren aspect of the country seemed calculated to excite the murmur of its inhabitants. For even amidst these rocks we beheld "a land which the Lord had blessed;"—a land, it is true, where sluggards might starve,—as they may anywhere; but where a sturdy and active race of men have already found all that is necessary for the comforts and even for the luxuries of life;—"A LAND WHEREIN THOU SHALT EAT BREAD WITHOUT SCARCENESS, NOR LACK ANY THING IN IT; A LAND WHOSE STONES ARE IRON, AND OUT OF WHOSE HILLS THOU MAYEST DIG BRASS."

Hällefors.

About nine *English* miles from *Sanna* is *Hälleforss*, a place long rendered remarkable for its *silver-mines*, but which are now nearly exhausted[1]. Three *English* miles and a half beyond *Hälleforss* we arrived at *Nytorp*. Rain fell incessantly,

Nytorp.

(1) The minerals found at *Hälleforss* are:
1. Argentiferous sulphuret of lead.
2. Sulphuret of lead, crystallized in cubes.
3. Mercurious sulphuret of lead.
4. Yellow sulphuret of copper, in acicular crystals.
5. Sulphuret of iron, in various forms.
6. Sulphuret of zinc.
7. Lime-spar.
8. Crystallized quartz.
9. Hydrates of silica, of various hues.
10. Siliceous breccia.

and in torrents; but the roads, as before, were so excellent, that it seemed to make no alteration in them. Leaving *Nytorp*, and going towards *Hjulsiö*, we observed beautiful lakes on each side of the route. We had forest-scenery in our way from *Hjulsiö* to the mines of *Nya Kopparberg*; a name signifying the *New Copper Hill*, or *Copper Mountain*; in opposition to *Gamla Kopparberg*, or the *Old Copper Mountain*, the name usually given to the works at *Fahlun*. The *copper-mines* of *Nya Kopparberg* were exceedingly rich when they were first discovered, but at present they are poor. The whole district is of primitive formation, and consists of *schistose* or *foliated granite*. Various specimens of *granite* may be had from these mines; and several varieties of *fluor-spar*, which is not a common mineral in *Sweden*. We found here that interesting variety of *fluor-spar*, which, from its phosphorescing with a green light, is called *Chlorophane*: and it may be remarked, that *fluor* never exhibits phosphorescence in such a high degree of perfection, or with such beautiful hues, as when it is found in a state of association with the *ores of copper*[2]. The ore of *Nya Kopparberg*

Nya Kopparberg.

Minerals.

(2) The minerals of *Nya Kopparberg* are:
1. Grey sulphuret of copper.
2. Yellow sulphuret of copper—*peacock-ore of copper.*
3. Sulphuret

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is the *yellow sulphuret*, called copper pyrites. It is found accompanied by the sulphuret of zinc and *iron*. Among the rarer minerals of this mine may be mentioned the remarkable substance by which *D'Andrada* gave the name of *Petalite*, since rendered so interesting to the mineralogist and the chemist, by containing *Lithina*, the new alkali, discovered in this mineral by *Arfvedson*, the pupil of *Berzelius*[1].

Laxbro. The village, near which the *Nya-Kopparberg* mines are situate, is called *Laxbro*. The inn here was quite full, owing to a Sessions held by

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3. Sulphuret of zinc.
4. Sulphuret of lead.
5. White, green, and violet fluor-spar.
6. Fibrous hornblende.
7. Actynolite.
8. Pot-stone.
9. Dark-red feldspar.
10. Mica.
11. Sulphuret of iron.
12. Quartz.
13. Petalite. (See *Thomson's Travels in Sweden*, for this locality of *petalite*.) The mines from which the specimens have been derived, that have been usually sold in *England*, are those of *Utö*.

(1) This discovery took place nearly at the same time that the analysis of *petalite*, by the author of these Travels, was published in Dr. *Thomson's Annals of Philosophy*. The author had transmitted to the celebrated *Berzelius*, through Mr. *Swedenstierna* of *Stockholm*, his doubts as to the presence of a new body in *petalite*, calculated to supply the loss sustained in his own examination of that mineral. In Mr. *Swedenstierna's* answer, the discovery of *lithina*, by *Arfvedson*, was announced. Mr. *Swedenstierna's* Letter is dated *February 17th*, 1818. It is now in the author's possession.

the principal Magistrate of the district: but the master of the inn, with great kindness, had provided for us most excellent accommodations in a very splendid house, hard by, belonging to one of the proprietors of the mines. We found here a few books, which convinced us that topographical works were beginning to make their appearance in *Sweden*. Among others, we saw a description of the town of *Orebro*, with plates tolerably well executed: it had been printed in *Stockholm*. The business of the Sessions had assembled some of the lawyers. We passed the evening with one of them, a very intelligent man, well read in the antiquities of his country, and well acquainted with the *Finnish* language. He told us that this language is more difficult for a *Swede* to become acquainted with than with *English*; which must be evident to an *Englishman*, from the resemblance his own language bears to the *Swedish*; and its total discrepancy, when compared with the language of *Finland*, which seems to bear no resemblance to any other language, if we except that of *Lapland*, to which, however, it is not nearly allied. A curious circumstance happened in former times, during a war between *Sweden* and *Russia*. A colony of *Finns*, disturbed in their settlements by the predatory incursions of the *Russians*,

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deserted their country, crossed the *Gulph of Bothniå* at the *Quarcken*, and established themselves in the forests of *Herjeådalen*, where their descendants, at this hour, speak the *Finnish* language in its original purity.

Beauty of the Lakes.

If we were to describe all the beautiful lakes which we saw in our next day's journey, *Nov.* 7, in going from *Laxbro* to *Bommarsbo*, the Reader might fancy himself transported, by the Fairy-led Muse of *Spenser*, amidst the scenes of some terrestrial paradise: so much is due to the picturesque beauty of the landscapes. A traveller, who is a draughtsman, might be tempted to halt almost at every instant, and endeavour to delineate some of these delightful views.

Soon after leaving the house of the wealthy proprietor, who had so politely and hospitably received and entertained us, we passed close to the mouth of one of the principal mines, which, with its yawning gulph and complicate machinery, occurred by the side of the road. There was not a living creature to be seen near it; but we were told that a numerous body of miners were at their work below. No precaution is used in *Sweden*, either to close up, or to fence, the dangerous pits which have been made in working the mines; neither is there any sign by which their situation may be known. The con-

sequences must be obvious, in the accidents which happen: for the benighted stranger who is travelling in this country, and the herds of cattle foddered in the forests, must be constantly liable to fall into them. We passed some of the lakes before mentioned. Near *Hagforss* we saw a smelting-house, once used for *silver-ore* found near this place, in *Christian's Mine*, which is now exhausted. A continued series of lakes was exhibited to us, in the midst of the most beautiful undulating forest-scenery, during the journey from *Hogforss*, through *Hellsion*, to *Ostanbo*, which is situate upon one of those lakes. How numerous are these aqueous scenes in *Sweden!* May they not be considered as the reliques of that vast world of retiring waters, out of which rose the rocks and the forests of *Scandinavia;* and of which the *Wener* and the *Wetter* Lakes, nay, even the *Gulph of Bothniâ*, and all the *Baltic* Sea, are themselves only the vestiges? "These lakes," says *Thomson*[1], in his valuable account of *Sweden*, "consist of the purest and most transparent water; and serve not only to beautify the country, but are a considerable resource to the inhabitants, on account of the numerous fish which

(1) Trav. in *Sweden*, *p.* 392. *Lond.* 1813.

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they all contain." In very many instances, their banks are so covered with wood, that the trees grow luxuriantly quite down to the water's edge; which remark particularly applies to the *Wener*, covered all round its shores with the most magnificent groves. Yet, that these lakes are but the remains of an overwhelming deluge, once as hostile to the prosperity of the human race as they now are beneficial, is evident from this circumstance, that their waters are gradually retiring. Judging therefore of the distant and the future by the present, we may fairly conclude, that, as a general flood once involved the whole of this watery region, out of which—realizing the antient fable of a *Venus Anadyomene*—has risen the whole of *Scandinavia*, so it is reasonable to infer, that some portion of mankind, yet unborn, will hereafter people the mountains and the hills and the valleys now covered by the waves. "There is great reason to believe," observes the author before cited[1], that the lakes in *Sweden* are diminishing in their size, and that many of them will at last dry up. I saw several striking instances of this diminution. It is attended with a corresponding diminution in the

Diminution of their waters.

(1) Trav. in *Sweden*, *p.* 394. *Lond.* 1813.

size of the *Swedish* rivers; most, if not all, of which originate from lakes. This diminution has become so striking at *Upsala*, that apprehensions are entertained that the river running through the city will soon be incapable of driving a corn-mill, upon which the University depends for a considerable part of its revenue. A diminution in the size of the *Baltic* has ever been remarked by the *Swedish* writers; and demonstrated by evidence that, to me, at least, appears incontestable."

Smedbacka.

From *Ostanbo* to *Smedbacka*, the distance is only half a *Swedish* mile. Here we found an iron-foundry, and several new buildings pleasantly situate upon a lake. We considered a dirty inn at *Smedbacka* as by no means a common occurrence in *Sweden*. In this country, cakes are made by mixing the blood of animals with rye-flour, which are afterwards fried in grease, and esteemed luxurious articles of food. Should any fastidious reader consider such a diet as the remains of barbarous *Teutonic* customs, let him be reminded, that, where refinement is supposed to be exhibited in its most boasted state of advancement, it is no unusual thing to see a mixture of blood and fat stuffed into a swine's entrails, and served up at the tables of the great, under the name of *black-puddings;* at which, per-

Blood Cakes.

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haps, his own mouth has often watered.—Peace, therefore, to the poor *Swede*, who seasons his rye-cake with blood!

Entrance of *Dalecarlia*.

Between *Smedbacka* and *Bommarsbo*, we entered the province of *Dalarne*, or *Dalecarlia*. Here a botanist might amuse himself, amidst the supreme Court of the *Cryptogamia*, by selecting, in their best dresses, the most luxuriant specimens of *Fungi* and *Musci* which perhaps he will find in all Europe. Every species of *morel*[1], in the most grotesque forms, like a very buffoon of plants, and of uncommon size, grows here: also various kinds of *Lycopodium*, especially the *complanatum* and the *annotinum*:—the former, called *jämna* by the *Swedes*, and pronounced *yemna*, is the common tenant of all the sterile forests in *Sweden*: it is often used, by the natives, for giving a yellow dye to their wool. Of the *morels*, we observed, that, in proportion as their growth was the more luxuriant, so much the more remarkable was the plant for its strange and misshapen appearance: it was hardly possible to view some of them without laughing; so uncouth and ridiculous was their appearance: we might almost fancy that there existed a spirit of fun

Varieties and Luxuriance of the *Fungi* and *Musci*.

(2) *Phallus esculentus*, *Phallus impudicus*, and *Phallus caninus*.

and caricature in the lowest order of vegetable beings. At *Bommarsbo* we found only a single house. The owners were poor; but the accommodations were clean and good, and much superior to those of *Smedbacka*. In *Sweden*, as in *Norway*, every housekeeper manufactures his own candles; and some of these home-made candles were brought to us, as clear and white as if they had been composed of pure spermaceti. But what is more curious, they are often not made until after the traveller arrives. At *Bommarsbo*, they were made and sent in almost as quickly as they could have been procured at the great inns at *Salt Hill* or *Marlborough*, by an order given to a waiter.

Bommarsbo.

Home manufacture of Candles.

Upon the 8th of *November* we left *Bommarsbo*, at eight A. M. with a view of a lake towards our right, which continued for some distance: and when we left it, a more distant view of lakes and islands extended towards the south-east. We changed horses at *Russ-gården*, and proceeded to *Naglarby*; passing, in our way, an extinct iron-mine, and also a place where there had been a foundry. As we drew near to *Naglarby*, the country was more open, well cultivated, and fully peopled. The general aspect of *Dalecarlia* is that of a level fertile plain, enclosed for agriculture, and surrounded by mountains. The

Russ-gården.

Naglarby.

General Features of *Dalecarlia.*

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village of *Naglarby* is situate in this plain, and surrounded by *lakes* and *rivers*. After we left it, we continued along this delightful plain for about two *English* miles, when we came to a ferry over the river *Dal*; and, in our way to this ferry, saw several tributary streams, in which a sort of stake-fences were set in all directions, as enclosures to catch the numerous fishes wherewith these waters abound. Our road from *Naglarby* to *Fahlun* was long and dreary, chiefly by the side of the *Dal*. Upon the left of our route we were shewn the residence of the woman who was nurse to the young king, *Gustavus the Fourth*. The Court of *Sweden* chose for this purpose a *Dalarne* peasant; the females of this country being esteemed not only as the best nurses in *Sweden*, but as valuable servants in any menial capacity in which they engage. Everything that a *Dalarne* man does, is thought better done than if executed by other hands: and, in their own opinion, the natives of this province believe that no people can compare with them. The number of births in *Dalecarlia* is surprisingly great: but, as its produce is not equal to the support of one half of its population, the youth of both sexes are sent out to earn a livelihood in different parts of *Sweden*: afterwards they return home; as they do not choose to marry out of their own

Character of the Natives.

province. A *Dalarne* man always considers himself equal, in strength, prowess, and ability, to any two of the natives of the rest of *Sweden*. The antient language of the people, and their antient mode of dress, is still kept up among them. We were told that in the northern district of this province a dialect is spoken closely resembling *English*; but the same may be said of other parts of *Sweden*: and more than once we had an opportunity of remarking, that when the *Swedes* offered examples of *Swedish* dialect which to them were almost unintelligible, either owing to their antiquity or to their provincial character, they were, on this account, the more intelligible to us; and so like to our old *English* language, that they differed from it only as the sort of *English* used by *Robert of Gloucester*, exhibiting the transition from the *Saxon* to the *English* language [1], or that which *Bellenden* adopted in his translation of *Boëthius* [2], differs

Dialect.

(1) See Dr. *Johnson*'s History of the *English* Language, in the Preface to his Dictionary.

(2) *Hector Boëce*, or *Boëthius*, Canon of Aberdeen, wrote a History of *Scotland* in 1546: its translation, or paraphrase, was written by *Bellenden*, Archdean of *Murray*; and appeared in *Edinburgh*, in black letter, in 1541.

"They use," says Dr. *Thomson*, "a dialect of their own, similar to that dialect of *English* which is spoken in the Lowlands of *Scotland*. It is reported, that a *Dalecarlian* who spoke this language, being landed near *Aberdeen*, was understood by the inhabitants." *Trav. in Sweden*, p. 202.

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from the *English* now in use[1]. The aspect of the country is not like that of *Sweden* in general, being more level and open: we thought it resembled *Cambridgeshire*. The old dance of the *Dalecarlians* is simple, and very pleasing: it is performed by three persons—a man with two

Antient Dance.

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(1) *Holenius*, of *Fahlun*, in the *Dissertationes Academicæ* of *Upsal*, published a brief Vocabulary of the *Dalarne dialect*, shewing its relationship to the *Gothic*, *Icelandic*, *Danish*, *Saxon*, *Teutonic*, *Vandalic*, *German*, *English*, *Greek*, *Spanish*, *Italian*, *Anglo-Saxon*, *Franco-Theotisc*, and *Mœso-Gothic*. See the Section entitled "*De Linguâ Dalekarlorum hodierna*," in the Second Part of his Thesis "*De Dalekarlia*," printed at *Upsal*; p. 139.—Many other instances might be adduced, more striking to an *English* ear than those which he has mentioned; but among them are the following:—

DALARNE.		ICELANDIC.	ENGLISH.
Brauda	*jentaculum apponere*	Braud	Bread.
Drett	*Excrementum*	Drit	Dirt.
Friosa	*Frigere*		to Fry.
Gron	*Seges*	Grion	Grain.
Grass	*Gramen*		Grass.
Hetta	*Capitis tegmen*	Hattur	Hat.
Ig	*Ego*	Eg	I.
Is	*Glacies*		Ice.
Iätä	*Edere*		to Eat.
Knaif	*Culter*	Knijffur	Knife.
Lyr	*Hepar*	Lyr	Liver.
Mog	*Multum*	Mog	Much.
Mok	*Lac*	Mooik	Milk.
Sälti	*Sal*	Salt	Salt.
Ära	*Auris*	Eyra	Ear.

women, one on each side of him, who alternately engage his attention, until the dance concludes by an *allemande*, in which, as by one accord, they all join. We have found occasion, in former parts of our journey in *Scandinavia*, to allude to the curious remains of customs which belonged equally to the *Hyperboreans* and the *Greeks*. Whoever attends to the rites and ceremonies of a *Dalecarlian* wedding, will be struck with their resemblance to the manners of the Antient *Greeks*. Of this the *Swedish* writers have, in some instances, been themselves aware[2]; although sometimes it may have led them erroneously to suppose that one nation owed its origin to the other, rather than that both were the descendants of one common stock. That we may avoid repetition, we shall not again otherwise notice the curious *Runic Staves*, of which we met with more than one instance in the villages of *Dalecarlia*.

Original use of the *Runic Staves*.

(2) "Quod si comparatio accuratior instituenda foret Græcorum Romanorumque rituum circa nuptias, in multis Dalekarlorum ac veterum Hyperboreorum responderent." *Ibid. p.* 137. *Conf. Heims Kringla Peringsk. tom.* I. *pp.* 140, 557, 655. *tom.* II. *p.* 425. *Verelii Not. in Hist. Herv. c.* 4. *LL. Dal. Tit. de Matrim. sect.* 1 & 2. *Sagan af Hæsna Thorir. c.* 17, 18, 19. *Alb. c.* 6. *Thorde Hredo, c.* 17, 37. *Liosvet. S. p.* 17. *Gunlaug. Ormst. S. p.* 18. *Wilhelm Siodz, c.* 68, &c. *Ol. Tryggw. c.* 29, 42. *Herrouds oc Bosc. S. c.* 11, &c. *Swarfdala, c.* 17. *Eigla, c.* 11, *et* 56. *Rod. hin Spaka, c.* 1. *Isfird, c.* 34. *Codd. MS. in Arch. Antiquit. Holmensi; Jac. Gronovii Thes. Antiq. Gr. tom.* VII, *et* VIII. *J. G. Graevii Thes. Antiq. Rom. tom.* VIII, *et* XII.

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That they are the same as the *written-rods* mentioned in the earliest part of Sacred Scripture, has been already shewn, in a former part of this work[1]. But the original use of them we found here sufficiently explained: for, like the staff of an *Ataman* among the *Cossacks*, they are still regarded as ensigns of office, and are borne in the hand upon particular occasions, by the Elders of each village where they are found. The earliest *Grecian* annals seem also to allude to similar insignia, as the staves of the accredited agents of power[2].

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(1) See p. 125 of this Volume.

(2) A passage in Dr. *Fiott Lee*'s MS. Journal remarkably illustrates the use of these *Runic Staves*; which may have been alluded to by *Homer*, and are evidently the same as the *sticks* of the *Tribes of Israel* mentioned in Scripture:—

"When *Jupiter* had occasion to despatch his courier, we are told by *Homer* that *Mercury* εἵλετο τὸ ξύφος τῷ δ' ἀνδρῶν ὄμματα θέλγει, τῷ τε τ. λ. ταρτάρου τε τ. λ.: and probably without this ensign of office which he took with him, he had no powers at all. His efficacy thence originated. He had no influence in his proper person. And, lo! this wand was but a piece of ivory!

"When I was on the borders of *Lapmark*, in a peasant's house called *Niemesele*, on a lake side, I observed, hanging up, a square-sided stick about a foot long, with fine gilt-work and carving about it; and on one side were cut the following ten characters:

I was much amused with it, and asked them to part with it; intending to make them a small present, which, in my opinion, would be an equivalent; when it turned out that I might as well have asked the Lord-Mayor for the city-mace: and judge of my surprise, upon hearing that it was the

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Retreat of *Gustavus Vasa.*

One mile and a quarter before we reached *Fahlun*, we turned a little out of the road, to visit the house in which *Gustavus Vasa* remained concealed, and whence he afterwards effected his escape, by means of a privy. It is at a place called *Stora Ornås*. This house is now the property of a Colonel in the *Swedish* service, who has been at great pains and expense to preserve, as much as possible in its pristine state, this asylum of the great father of the *Swedish* Kings. They shewed to us the chamber and bed in which he slept; his clothes, weapons, coat of mail, and many other things, even to his watch and his Bible. His watch and coat of mail appeared to us to be the most curious reliques. The watch was of an oval shape, but the figures upon it were like those now in use. The coat of mail was like the armour used by the *Circassians*; and

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ensign of office in the village; that he who had it in possession, *pro tempore*, was the Chief, the Civil Governor of the village, which consisted of ten families, each of which had its own distinguishing mark;—that upon any very public and important emergency, which demanded the collected wisdom and experience of the heads of the families to decide upon, this stick was sent round to each family; and every head of a house, upon seeing his family-mark, immediately repaired to the house of him in whose custody the stick had been consigned, and there they all held their deliberations. In case they do not attend the summons, they are severally fined. No money therefore could have purchased it: and that which I at first regarded as an object of amusement, I found to be held an object of veneration."—*Dr. Lee's MS. Journal.*

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was perhaps manufactured in *Mount Caucasus*, where the natives still sell such articles of their manufacture to the *Russians*. It is a shirt of twisted mail, fitting close to the body, through which no common weapon could penetrate. We found the weight of it by no means insupportable for men of much less prowess than was the hero to whom it belonged. Upon a table in the room were laid several books illustrating the history of *Gustavus Vasa* and of the province of *Dalecarlia*. This chamber was ornamented with portraits, very indifferently executed, of the Kings and Queens of *Sweden* since the time of *Gustavus Vasa*. There was also an immense genealogical-tree, exhibiting their pedigree. In the same room were figures, as large as life, representing the *Dalecarlians* according to their antient mode of dress, with high-crowned hats, white woollen clothes, and trowsers tied above the knee; bearing in their hands cross-bows, and having each a knife and a grease-pot suspended from a belt. These, they said, were the images of the very peasants who assisted *Gustavus Vasa* in making his escape. They were represented with long beards, and reminded us of some of the natives of the *Swedish Alps* which we had seen in the province of *Herjeädalen*. Here there is also an effigy of *Gustavus Vasa* himself, placed

beneath a canopy; and also of his page or esquire, in complete armour. The bed and the canopy terminate upwards in a point, upon which is placed a coronet. The complete preservation of this building will shew to what a length of time the wooden houses of *Sweden* may be made to last, if they be kept dry and in good repair.

Approach to *Fahlun*.

From *Stora Ornås* to *Fahlun*, the roads, at this season of the year (*November*), are not good; owing, as we supposed, to the very considerable traffic which is carried on, in consequence of the mines, and the heavy burdens made to pass and repass. Upon our right appeared beautiful views of the Lake *Runn*. Just before we arrived at *Fahlun*, we had a prospect of the town, with all the buildings, machinery, and other works belonging to its antient mine; but in the midst of such columns of smoke, and fumes of sulphur, that it seemed as if the great bed of the *Solfaterra*, near *Naples*, had taken flight and settled in *Sweden*. As we descended towards the town, the houses appeared like so many tarred boxes, in the midst of a bleak and barren soil. We passed under the enormous moving levers which are employed in working the pumps. The wheels giving motion to these levers are kept in covered buildings: they are moved by over-shot falls of

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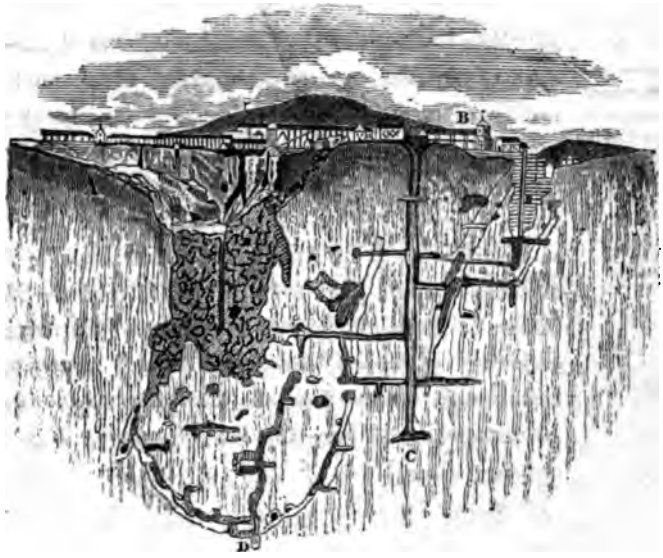
Historical aspect of its Copper-Mine.

water, brought from the Lake *Runn*. The road leading into the town passes close to the edge of the stupendous crater which is now the mouth of its famous copper-mine. We shall say much more of it in the next chapter. Considered only as to its external aspect, it is one of the most surprising artificial excavations which exist in the world. Knowing of no other work of a similar nature with which to compare it, we shall call in the aid of the pencil to supply the deficiencies of verbal description: but the ingenious artist who has afforded to us the means of doing this, is himself unequal to the task of representing a scene of so much fearful grandeur. All the magnitude of this amazing result of human labour loses much of its effect by that minuteness of detail which is necessary to a faithful representation of the machinery belonging to the mine. While we are forced to acknowledge this striking defect in the best drawing we could procure of the *Fahlun mine*, we are consoled with the reflection, that even this will be deemed by our Readers much better than if no representation whatever were given of a work so renowned, and a scene so remarkable.



A. The great Crater.
B. Town of *Fahlun*.
C. *King Adol-Frederic's Shaft.*
D. Lowest point of the Mine.

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FAHLUN TO SALA.

Antiquity of the Fahlun *Mine—Assessor* Gahn—*Copper-ore—Decent into the mine—Conflagration—Method of excavating the ore—Manner in which it is found deposited—Accident which caused the present Crater—Tradition of the miners—Appearance of the descent—Names of the different openings—Increase of temperature in the lower chambers—View of the bed of fire—Council-chamber—Subterraneous stables—Stalactites of green-vitriol—Pumps—Mode of dividing the ore—Value of the*

the Shares—Bergsmen—*Valuation of the Lots*—*Produce of the Works*—*Present state of the* Fahlun *Mine*—*Works above ground*—*Vitriol manufactory*—*Remarkable form of precipitated copper*—*Process for concentrating the lye*—*Subsequent crystallization of the salt*—*Town of* Fahlun—*Wood impregnated with copper*—*Punishment of "Riding the great horse"*—*Public buildings*—*Geological features of* Dalecarlia—Säter—*Mines in its neighbourhood*—Hedmora—*Curious floating-bridge*—*Nuptial festivities*—*Annual return of Dalecarlian Peasants*—Avestad—*Character of the Swedish Peasants*—Broddebo—*Custom in passing a Robber's grave*—Sala—*Mines of* Salberg—*Nature of the ore*—*Decent into the* Salberg—*Minerals*—*Town of* Sala.

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Antiquity of the *Fahlun* Mine.

"THE Mine of *Fahlun*," we are universally told, "was worked before the Christian æra:" but who can pretend to determine any thing of *Swedish* history before the time of our Saviour? Much of the confusion which bewilders every research into the earliest *Scandinavian* annals has been caused by those writers who have laboured to establish a notion that this country was the original habitation of the *Goths*; whereas there is great reason to believe, that, in the beginning of our æra, the colony of the *Goths*, from whom the *Swedes* are descended, had not yet penetrated so far towards the north of *Europe*. Of all the ridiculous fables ever imposed upon a credulous world, that which would make of

Scandinavia "the storehouse of nations" is the most absurd: it is fitted only for the pages and the readers of such an author as *Sebastian Munster*[1]. The first sight which a traveller has of the country is sufficient to remove every doubt upon this subject. Its unbroken forests, and a slowly advancing population, making the first essays of agriculture upon a land where there is not a vestige of any former inhabitants—excepting perhaps in the southern parts of this wild region, where a solitary *Celtic* mound, here and there[2], marks the sepulchres of a race of men who were never settled in the country, and with whom the *Goths* had no connexion—afford manifest proofs of the erroneous opinions which have been propagated, and which still prevail, respecting its antient history. There are no writers, says *Vertot*[3], that are either so credulous or partial as those who have published an

(1) "Howe populous was this Country and others lying about it, manye great and wyse men doo wytnes, as Withodius, Martir, Iornanus, Gothus, and Paulus Diaconus, the which Authors do wrytte that this people dyd swarme lyke Bees. And they call these Northe Regions the Storthouse or Garnar of Nacions."—*North's Description of Swedland, Gotland, and Finland, gathered out sundry laten Authors, but chieflye out of Sebastian Mounster. Imprinted at London, Anno 1561, by John Awdely.*

(2) And of these, no traces exist farther towards the north.

(3) Histoire des Révolutions de *Suède*, tom. II. p. 252. *Paris*, 1696.

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entire body of the *Swedish* history: if we may give credit to their relations, that kingdom is the most antient monarchy in the world. And he afterwards adds—without undertaking to decide the celebrated question, whether *Sweden* be the original habitation or only a colony of the antient *Goths*—it is certain there is no fixed æra, in their annals, until about the middle of the twelfth century. This period commences with the accession of *Eric the Ninth:* all the preceding annals are embellished with fictitious wonders, extracted from old legends or antient songs. The heroes and princes of those remote ages are always represented as giants and magicians. Force was the supreme law; the power and violence of an oppressor entitled him to the respect and esteem of the people; and it was deemed inconsistent with the honour of a prince to marry a princess before he had committed violence upon her person[1]. A fortunate murderer was not only admired as a hero during his life, but adored as a deity after death. In such a state of society, it is not very probable that the inhabitants of *Dalecarlia* were engaged in mining speculations; or that any work was

(1) "Un Prince auroit esté déshonoré qui auroit épousé un Princesse qu'il n'auroit pas ravie." *Vertot*, ibid. p. 255.

going on which required the aid of foreign commerce for its support. According to the authors of a late popular account of *Sweden*[2], the oldest charter of the mine of *Fahlun* is that of *Magnus Smeek*[3], in 1347; from which it appears, that anterior documents existed among the archives of the crown. But these writers do not seem to have been aware, that, above a century before the time of *Magnus Smeek*, there was another King of *Sweden* of the name of *Magnus*, namely *Magnus Ladislas*, renowned in the *Swedish* annals for wiser counsels and for better sway; the same who caused the sovereignty of all the mines in the kingdom to be vested in the crown, and also accorded privileges to those mines, which seem to be the same they have alluded to. A record of the fact is mentioned by *Loccenius*, in his Antiquities of *Sweden*[4]: and *Messenius*,

(2) Voyage de Deux Français dans le Nord de l'Europe, tom. II. p. 241. *Paris*, 1796.

(3) Called, by the authors of the work above cited, *Magnus Smek*. He was the most unsteady, weak, voluptuous, and arbitrary monarch that ever wielded the *Swedish* sceptre; elected King of *Sweden* A.D. 1319, at three years of age; and died in *Norway*, A.D. 1371. According to *Loccenius*, (*Hist. Svecana*, p. 106. *Francof.* 1676,) *Magnus* obtained the surname of *Smeek*, from his being duped by the specious promises of *Waldemar* king of *Denmark*. "*Huic occasioni imminens Waldemarus, in Scaniam* Magnum *amicissimis literis illexit, et blandis verbis promissisque lactatum, unde* Magno *postea cognomen* Smeek *adhærebat*," &c.

(4) "Vetustas tamen cœptæ effossionis quodammodo colligi potest ex Rescripto MS. Magni Ladilas, regis Svecia, Montanis Anno MCCLXIV. Dicti Rescripti pars Latinè versa sic habet. *Eò quod vestra privilegia et antiqua*

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in his learned and exact work[1], which enumerates, in chronological order, all the principal events of *Swedish* history to the beginning of the 17th century, notices the manner in which the sovereignty of the mines had been obtained. How long before that event this mine had been worked, or in what manner and in what age it was originally discovered, cannot now be ascertained[2]. If any credit might be given to the traditions extant concerning it, all the *copper*

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antiqua diplomata, quæ habebatis à nostris majoribus, nuper quum apud vos essemus, in curiâ illorum virorum, qui ea adservare debuissent, perierant, graviter errastis in eo jure, quo fodinæ metallicæ erigendæ ac stabiliendæ erant. Deinde novo privilegio illud firmat."—*Johannis Loccenii Antiquit. Sveo-Goth. p.* 82. *lib.* 2. *cap.* 17. *De regni Sveo-Gothici fodinis metallicis. Francof. & Lips.* 1676.

(1) Johannis Messenii Scondia Illustrata, tom. II. p. 60. *Stockholmiæ;* Anno Christi, 1700.

(2) The following extract from the Antiquities of *Loccenius* ought not, however, to be omitted:—

"Certe illud verè affirmari potest, unà cum religione omnium aliarum rerum copiam, atque adeò ipsam felicitatem ad Gothos Sveonesque pervenisse. Satis constat, tum primùm auri, argenti, ferri, cupri, cæterorumque metallorum fodinas repertas: ut harum rerum copiâ nulli cæterarum regionum cederent, cum antea nullam haberent. (*Vastovius, in præfatione Vitis Aquilonaris, apud Loccenium, Antiq. Sveo-Goth. p.* 83.) Ex hac verò ejus sententiâ ante DCCC. circiter annos (quo tempore Christiana religio huc primùm introducta est) inventas primò fuisse metallorum fodinas, statuendum foret. Sed eas antiquiores esse, constat ex K. Suerris Saga, ubi hæc exstant verba: 'JARNBER ALANDER UNDER SUIA KONG, OC VAR THA EN HEIDIT.' h. e. *Tractus aut terri ferri fodinarum Sveoniæ Regi subest, nec tum adhuc ad sacra Christiana conversa erat.* Unde patet jam in paganâ religione ante Christianam in usu certè notitia fuisse; licet sub Christianâ religione magis magisque efflorescere potuerint."—*J. Loccenii Antiquit. Sveo-Gothic. lib.* 2. *cap.* 17. *p.* 82. *Francof. et Lips.* 1676.

employed by *Solomon*, in building the Temple at *Jerusalem*, was derived from the *Fahlun* mine.

The situation of the mine is close to the town: there are few sights of the kind which better repay the traveller: he will seldom find a mine of equal celebrity which, under all the circumstances of depth and magnitude, is so easy of investigation: and perhaps in no part of the world will he meet with superintendants so well informed as those who preside over the works here; at the head of whom is the celebrated *Gahn*, whose acquirements, and the kindness he has always shewn to strangers, have entitled him to respect and consideration in all the Academical Institutions of *Europe*. We had letters of introduction to this gentleman, and therefore made it our first business to inquire for his place of residence, and to wait upon him. The reception which he gave us was of such a nature, that to pass it by without a grateful acknowledgment would be highly reprehensible. Hospitality in a *Swede* is what we may always expect; but the attention paid to strangers by Mr. *Gahn*, especially if their visits had any view to science, was of a more exalted nature. He not only shewed a zeal, as if actuated by a religious duty, to satisfy scientific inquiries; but he did more—he directed them; and himself

Assessor *Gahn*.

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endeavoured to stimulate the ardour of those with whom he conversed, when he found them engaged in the pursuit of knowledge, by exciting and then gratifying their curiosity; neither regarding the interruptions to which it rendered him liable, nor the fatigue he often encountered in being their guide, and himself descending with them during their examination of the mines. In the *Fahlun* Works, Mr. *Gahn* exercised the office of *Assessor;* under which title his name frequently occurs, in books of Travels. The most interesting account of his character and abilities has been given by the celebrated chemist whose work we have before cited; and whose visit to *Fahlun* was made subsequent to our own[1]. Speaking of him, he says: "Perhaps it would not be bestowing too high a compliment upon Mr. *Gahn*, if I were to say, that he possesses the greatest quantity of general information of any man in *Sweden*. Nor are the frankness and affability of his manners inferior to his knowledge. I have seldom met with any person with whom I was more delighted." He was the intimate friend of *Scheele* and of *Bergman*; but his own discoveries have been very remarkable[2]: among which, the two principal were,

(1) See Travels in *Sweden*, during the Autumn of 1812, by Thomas *Thomson*, M.D. &c. p. 222. *Lond.* 1813. (2) Ibid. p. 223.

1. The discovery of the constituents of the earth of bones, which he ascertained to consist chiefly of the *phosphate of lime;* and, 2. The reduction of the ore of *manganese* to the metallic state.

Having obtained, from the Master of the Works, permission for our descent into the mine, Mr. *Gahn* appointed his own son to be our guide and companion upon this occasion. Accordingly, we were conducted to an office for the sorting of minerals; before the door of which building we saw two large masses of *pyritous copper* placed, as specimens of the best ore of the mine. The moment we saw them, we recognised the sort of ore dug at *Paris Mountain,* in the *Isle of Anglesea:* but all the *European* ores of *copper* are in this respect nearly allied. The ore is almost always in the state of a *sulphuret;* whether it be found in vertical veins amidst *primary* mountains, or stratified among *secondary* rocks, and accompanied by animal exuviæ. The *tertiary* deposit, in which *copper* lies with the remains of vegetable bodies, is perhaps not known in *Europe;* although it constitute the principal, if not the only mode of formation which characterizes the mines of *Asia.* At the sorting-house, we were each accommodated with a suit of miner's clothes, made of black

Copper-Ore.

Descent into the Mine.

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cloth; and immediately proceeded towards the place of descent, which is very carefully guarded. It consists of a small lodge; where two aged miners, Invalids, are stationed as sentinels, to see that no improper persons gain access, to pilfer, as they formerly did, from the chests and cabins of the miners below:—a precaution now rendered doubly necessary, since the mine was set on fire. This event occurred but a few mouths previous to our arrival. Some men attempting to steal a quantity of the *sulphate of iron*, with which the mine abounds, on being disturbed, fled, leaving their torches burning; by which means combustion took place amongst the timber of the works, which communicated to the *pyrites*; and has continued ever since, in spite of all the endeavours made for its extinction. At this time it was thought that the progress of the fire had been checked; but the mine sent forth sulphureous fumes, like a volcano; and it was greatly to be feared that the conflagration might extend to the lower part of the works, when the mine would inevitably be destroyed. Mr. *Gahn* however surprised us, by stating, that, notwithstanding all the disadvantages consequent upon this fire, if they can succeed in arresting its progress, and keeping it, as it were, under some kind of dominion, very con-

Conflagration.

siderable profit would arise from it, in the quantity of the *sulphate of iron* (green vitriol), which may be collected from the roasted *pyrites*. The mode which they have adopted for checking the fire, is by stopping up all the passages where it is found spreading, by means of a double wall; leaving only as much air as may be necessary to support combustion, in those chambers where its continuance may prove advantageous. In this lodge a small fire is kept for the use of the miners, who are here allowed to light their pipes, and to dry their clothes.

We began our descent upon a *Saturday*, as early as eight o'clock A. M. Upon this day it is necessary to make the descent at an early hour; because fires are kindled in different parts of the mine every *Saturday*, about noon; which continue burning the whole of *Saturday* night, and all *Sunday*, with a view to soften the rocks, and facilitate their being wrought for the ore. Gunpowder was formerly used for blasting; but this is now applied sparingly: it being the opinion of the most experienced men in *Fahlun*, that a judicious application of the two methods succeeds better than either of them alone: for, as the blasting by gunpowder always leaves a certain number of irregular projections in the rocks, the subsequent process of applying fire

Method of excavating the Ore.

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to these inequalities tends to soften them, and to expedite the fall of the ore. The fires which are thus kindled every *Saturday*, are under the strictest regulations: the exact quantity of wood that shall be consumed is duly specified, and moreover, the precise portion of the rock on which the several fires are to be applied. We were four hours diligently employed in the examination of the principal excavations. To go over the whole of the *Fahlun mine*, would, as Mr. *Gahn* assured us, require a fortnight. Before we endeavour to make the Reader further acquainted with what we saw, it will be therefore proper to give a general description of this vast bed of *copper-ore*, and of the manner in which it has hitherto been excavated.

Manner in which the ore is found deposited.

The mine of *Fahlun* is an enormous crater, shaped like a sugar-loaf, with its point downwards; the same shape having been that of the natural deposit of the *pyritous copper* here found. The base of this enormous conical mass of ore, lying upwards towards the surface, was the first part worked. As the galleries for its excavation were necessarily extensive, and the props for supporting the roofs of the different chambers, consisting often of valuable ore, were of course left as sparingly as possible, it happened, from the avidity and carelessness of the workmen,

that there was not enough left to sustain the pressure of the superincumbent matter towards the surface; and consequently, in the year 1666, the whole of the upper part of the mine, that is to say, of the base of the inverted cone, fell in, and gave rise to the open crater we are now describing[1]. The sides of this crater being variously coloured by the exhalations from the mine and the action of the air upon its sides, added to the volumes of smoke and vapour rising from the bottom, give it the resemblance of the *Neapolitan solfaterra:* but the depth of the *Fahlun crater* is much more considerable; there is more of vastness in all that belongs to it; and the singular appearance caused by regular staircases, traversing its whole extent, from the lip of this immense bason to its lowermost point at the bottom, renders it altogether a sight in which we may vainly seek for points of similitude, in order to compare it with other works. At the bottom of this crater, at the depth of forty fathoms from the surface, various openings lead to the different levels and places of further descent into the mine; which, according to the notion prevalent among the miners, were origi-

Accident which caused the present Crater.

(1) See A. of the Vignette to this Chapter.

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nally opened in immemorial ages[1]. It would be very curious, certainly, if it were possible, to

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(1) *Ogerius*, who was also conducted, during his visit to this mine, by the *Gahn* of his day, has left us, in his *Ephemerides*, a lively picture of the impressions made upon his mind by the extraordinary nature of the spectacle. His work, according to *Du Fresnoy*, is rare; but it is not possible to insert the whole even of the racy description he gives of his descent into the *Fahlun mine*: the following extract will however serve to shew the manner in which he introduces it; proving, beyond all doubt, that it was written by an *Αὐτόπτης*.

"Ipse provinciæ Præfectus et præcipui municipes ad fodinam nos duxerunt. Obstupuimus profectò, statim atque ad os præcipitii appulimus. O qualis facies, et quali digna tabella! Patet ingens terræ hiatus latissimus, profundissimus, quem in circuitum repagula lignea ambiunt, ne temerè quisquam ad marginem fossæ accedat, aspectuque profunditatis tantæ terreatur, ac corruat. Licet tamen his repagulis innitaris, si oculos in imum demittas, continuò caligent, turbanturque: si illos tandem intenderis, videbis homines euntes redeuntesque ima in fossa; at illi avium, aut potius formicarum speciem, referunt, adeo pusilli apparent. Quocunque convertas oculos, contemplaris res tam miras ex sese, quàm inter se comparatas, ignes, glacies, splendorem, tenebras, permixta omnia: vetus illud esse Chaos diceres, adeo moles illa indigesta est, ac indiscreta: si curiosiùs advertas, deprehendes illic omnis generis colores æris, ferri, chalcanthi, sive vitrioli, sulphuris; PALLET HOC, VIRET ILLUD, RUBESCIT ALIUD, FLAVET ALTERUM: et ut alia Deorum arma, aut insignia in Æoliâ insulâ conflata et procusa sint, HIC CERTE FABRICATUS EST, ASSERVATURQUE IRIDIS ARCUS. Satiabantur avidè hoc spectaculo animi, oculique nostri; cum ecce tibi de repente quidam ex his operariis demittit se per funem, quo lapides, metallici trochleis, rotisque ab imâ fossâ in altum trahuntur: labi illum tam intrepidè, non sine horrore conspeximus: cùmque illi inter labendum pileus excuteretur è capite, cubito illum retinuit, adeo id securè agunt."

"Ergo descendimus in fossam per excisos, abruptosque in rupe gradus, &c. &c. . . . Postquam ad ducentos profunditatis passus descendimus, putavimusque in imo esse, sustulimus in altum oculos, eosque qui superius in margine fossæ erant, quia hominibus esse sciebamus, homines credidimus; cæterùm corvorum, aut cornicum species, nobis videbantur." *Caroli Ogerii Ephemerides, pp.* 196, 197, 198. *Lutet. Par.* 1656.

ascertain in what period the works were begun; and with what nation the *Swedes* traded with their *copper*, after the mine became productive. Its original discovery is lost in obscurity and fable. The present inhabitants of *Fahlun* relate the old story common to many famous mines, about a buck caught in hunting, whose horns were covered with an ochreous incrustation; and, in support of this, they allege the most prevalent names of parts of the *Fahlun mine*, all having reference to this animal; as *Buck's-hill*; the *Buck's-shaft*; the *Buck's-horns*; the *Buck's-hoof*; &c. But a similar story is told at *Röraas* in *Norway*; and also in other places where there are mines.

Tradition of the Miners.

From the small lodge, serving as a sentry, upon the brink of the crater now mentioned, and stationed upon the top of the uppermost flight of stairs, we began our descent into the mine. These stairs are formed by nailing bars of wood across inclined planes, which slope downwards; and are thus so contrived, as to prevent the feet of horses from slipping, in their passage up and down. The view in descending the platforms is very striking; the whole being open to day-light, and the sides of the great crater being diversified, like those of *Vesuvius* after some of its eruptions, with a rich contrast

Appearance of the descent.

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work. This high temperature, increasing always in the direct proportion of the descent from the surface of the earth, and which may be observed in all mines, has never been satisfactorily explained. In the great mine of *Poldice*, near *Truro* in *Cornwall*, which has been worked, in *granite*, to the depth of 300 fathoms, the miners, as at *Fahlun*, carry on their labours naked; and the heat is so great at the bottom of the mine, notwithstanding the accumulating water, that it may be sensibly felt by any person placing his hand against the sides of the rock, as the author himself experienced. The heat of the *Fahlun mine* is so great, that it becomes intolerable to a stranger who has not undergone the proper degree of *seasoning* which enables a miner to sustain it. But then there are causes which tend greatly to increase the natural temperature: prodigious fires are frequently kindled, and at a very considerable depth in the mine, for the purpose of softening the rocks previously to the application of gunpowder: add to this, the terrible combustion which has taken place in the mine, threatening its destruction. We saw the walls which they had constructed for opposing its progress; and the overseers, by opening some double doors placed in these walls, gave us a transient view of the fire itself, that was at this

View of the bed of fire.

of the inverted cone, or bed of the ore, they have denominated "*Where now?*" The rest of the appellations of the different divisions they have named after the Directors and principal officers, the members of the Royal Family of *Sweden*, or after any illustrious character or remarkable event which has occurred in the political world[2]. And when the different parcels of ore are raised, they preserve the respective denominations of the parts of the mine whence they were severally taken. Passing into the deeper chamber, we at last arrived at the depth of 170 fathoms from the surface: but there are much deeper excavations; some of which have been carried on to the depth of two hundred fathoms. Here we found the heat very oppressive: the miners, with the exception of their drawers and shoes, were naked at their

Increase of temperature in the lower chambers.

(2) It may amuse the Reader to be informed what some of these names are; because they afford a sort of insight into the popular topics of interest among the miners of *Fahlun* at different periods. As specimens, we shall insert the following names of different parts of the mine, in addition to those already given:

Gustavus Adolphus.	The Mountain Lily.
The Frigate.	The Beaver.
Mars.	Count Jacob.
The Victory.	The Wife.
The Matron.	The Guitar.
The Repose.	The Bishop.
Terra Nova.	The Brasen Serpent, &c. &c.

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nostrils that we could venture beyond the second door. If this conflagration should extend to a greater depth, the mine would be destroyed by the fumes alone; as it would become impossible to proceed with the works in the midst of its exhalations. A miner, lately, in advancing unguardedly and with too much precipitation towards the ignited matter, to ascertain the extent of it, fell dead; being suffocated, as was the Elder *Pliny*, and in a similar way. It is this part of the mine, in which we approached nearest to the bed of burning *pyrites*, that bears the name of "*the Club of Hercules*." At the depth of 170 fathoms we were conducted into a large open chamber, or cave, in which fifteen naked miners were actively engaged, carrying on their labours. The heat and suffocating nature of the fumes in this place were so powerful, that although the mine extends thirty fathoms lower, we found it necessary to begin our re-ascent, being very much exhausted.

Subterraneous Stables.

In the deepest recesses of the mine there are stables for horses, in which these animals are kept in total darkness, for months together. Near the stables are also repositories for their fodder. At the lowest point of our descent, or near to it, we were shewn the *Council-chamber*, as it is called, where the officers belonging

Council-chamber.

to the mine, and others engaged in the works, hold their assemblies, and take their refreshments, when they descend to inspect the operations. This chamber is a circular cave, wainscotted, and furnished with a table and benches. An iron chandelier hangs from the roof, over the table. Gloomy as this cavern appears, many of the *Swedish* monarchs have sate within it. An old custom has ordained, that every *Swedish* king should once, at least, during his reign, pay a visit to *Fahlun*, and descend into this mine: consequently, their names appear inscribed upon the sides of the chamber. We noticed also the names of other distinguished individuals, either carved or written, both of natives and foreigners[1], who had honoured this apartment with their presence, and left a memorial of their coming. After we quitted the *Council-chamber*, we visited the stables, in which several horses were then stationed, and quietly enjoying their fodder, at the depth of 160 fathoms from their natural pastures. They seemed to be in as good condition, and as cheerful, although literally buried alive, as any of those which are kept above

(1) Among others, we read the name of *Joseph Acerbi*, from *Castelgoffredo* in *Italy*; and his companion, *Signor Bernardo Bellotti*, of *Brescia*.

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ground. Their loud neighing, echoing along the arched caverns, as we ascended from the lower parts of the mine, proved that habit had quite reconciled them to their gloomy abode. Some of them were fat and sleek: and certainly the temperature of the place where they are kept is as high as the most fastidious groom would require for giving to his steeds a shining coat.

Stalactites of Green Vitriol.

Among the other curiosities of the *Fahlun mine*, not the least curious are the stalactites of green vitriol, the *sulphate of iron*, which, in all parts of the works, may be observed in greater or less abundance, hanging either from the arched roofs of the levels, which are constructed in many places with brick-work, or upon the wooden ducts for carrying off the water. This is the substance which the workmen sometimes seek to convey away by stealth: in attempting which, as before mentioned, the mine was carelessly set on fire. It appears either crystallized, or as an incrustation, or in other stalactite forms, sometimes as big as a man's arm[1].

The whole of this *vitriol*, and all the *vitriolic water* of the mine, are the property of Assessor

(1) Specimens of it were brought away, which are still in the author's possession.

Gahn; and, of course, the removal of these stalactites, without his orders, is prohibited. The manner in which they are produced may be briefly stated: although it be now well known to all chemical readers; a similar process for the precipitation of *copper* constituting a very profitable part of the works in our own mines, especially at *Paris Mountain* in the *Isle of Anglesea*. As in that mine, the water of the mine at *Fahlun* is impregnated with *sulphuric acid*, holding *copper* in solution: but in its passage through the works, whenever it comes into contact with *iron*, for which the *sulphuric acid* has a greater affinity, a portion of the *iron* is dissolved, and *copper* consequently is precipitated. The liquid *sulphate of iron* being then exposed to evaporation, is gradually concentrated; and either crystallizes, or appears in beautiful transparent stalactites in different parts of the mine. But the product of this deposit is trifling, compared with the quantity of the same *salt* which is procured from the vitriol-works on the outside of the mine; to which the water of the mine is conveyed by pumps, as we shall afterwards describe. The working of pumps, in the profoundest cavities, at such remote distances from the power which maintains their action, is, in all mines, one of the chief objects of wonder to a stranger who

Pumps.

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descends merely to gratify his curiosity, and is unaccustomed to the view of mechanical contrivances, by which a moving force, so extraordinary in its nature, may be communicated. But in this part of the works, the *Swedes* are far behind the *English:* the vast powers of the steam-engine was as yet unknown to them; nothing of the kind having been introduced into their mining establishments.

Mode of dividing the Ore.

Fahlun mine is divided into twelve hundred different shares, or, as they are here called, "*Actions.*" The instant any ore is raised, a division takes place: but to give a full account of the manner in which the division is made, the mode also of defraying the expenses of the mine, together with all its by-laws and regulations, would extend the description far beyond the limits prescribed by a volume of travels. Every thing is conducted upon the best and most effectual plans. A number of shares may belong to the same individual: but their value varies so extremely, that it is not possible to form an average of the yearly value of any one of them.

Value of the Shares.

For example; the net profit of a single share at the time of our visit, estimated for the whole year, was not more than sixty rix-dollars; but there have been times when the annual value of a share has doubled that sum. It is not every

possessor of shares or "*actions*" that is allowed to collect his own portion of the ore, or to estimate its value. There are a certain number of persons who are privileged: and these are called *Bergsmän*; literally signifying "*Mountaineers*," but perhaps more properly translated *Mineralists*, or *Miners*[1]. Here, however, it has a higher import. The *Bergsman* must become qualified for his office, and for the privileges he enjoys: first, by having passed the ordeal of a regular examination; secondly, by the possession of a certain portion of landed property. He must, moreover, have other qualifications, before he can be entitled to the rank of *Bergsman*. Those proprietors who are not *Bergsmän* are obliged to let their shares to persons who are of this class, for a certain sum annually. Of the twelve hundred shares, sixty only are *Bergsmän*; and the whole aggregate of twelve hundred shares is subdivided into seventy-five lots, for the convenience of dividing the ore; each lot of the seventy-five containing sixteen shares[2]. When, therefore, any of the ore is raised, it is divided

Bergsmen.

(1) In the *Dictionarium Anglo-Suethico Latinum* of *Serenius*, printed at *Hamburgh* in 1734, a *mine* is called gruftwa; a *mineral*, malm; and a *mineralist*, bergsman. In the same work, a *mountain* is expressed by berg.

(2) $75 \times 16 + 75 = 1200$.

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into twelve portions: and as it is necessary that four of these twelve portions should go to defray the expenses of the mine, the remaining eight portions allow, for the sixteen shares, one half of each portion for every share. The next business is, to estimate the value of the ore; which is done in the following manner. The four-twelfths which have been set aside for defraying the expenses of the mine are separately put up to auction. At these auctions, nobody but *Bergsmän* is allowed to bid; and whatever the first lot sells for, is the value of the rest of the eight-twelfths. But should it so happen, that an inexperienced bidder appreciates too highly the first portion of the four-twelfths, every sharer possessing one-sixteenth may compel that person to buy his share likewise at the same price. In the public office belonging to the mine, a regular account is kept of every *Bergsman*'s profits, and of the deductions to which they have been liable; and this fair statement is daily open to public inspection. Of the twelve hundred shares, into which the whole produce of the *Fahlun mine* is divided, three-fourths are distributed in the town of *Fahlun* and in the province of *Dalecarlia*. The remaining one-fourth belongs to proprietors who are dispersed in the kingdom at large, and in other countries; insomuch, that there are per-

Valuation of the Lots.

sons residing in *America* who possess shares in this mine. The Company pay one-eighth of the whole produce to the king. In the period of its greatest prosperity, which was about the year 1651, the produce amounted to 20,000 *schippunds*[1] in a single year; but since that time it has constantly diminished, and now yields only from three to four thousand *schippunds* annually. As the produce of the mine has been diminished, so also has the number of workmen been lessened: the number of the miners now does not exceed four hundred persons; and if we include all those who are employed in the foundries and other works, the number will not exceed one thousand.

Produce of the Works.

From the description already given of the form of this bed of ore[2], as well as in surveying the products of the works during the last century, it must be evident that the *Fahlun mine* approaches to its termination. They have already reached the lowest point of the inverted cone; and have penetrated deeper than the ore,

Present state of the *Fahlun* Mine.

(1) The *schippund of Stralsund* equals twenty *lispund*, or 280 pounds. According to Dr. *Thomson*, (*Trav. in Sweden, p.* 221,) in the year 1600 the *Mine of Fahlun* yielded eight millions of pounds of *copper*. The same author also informs us (*p.* 222), that as much *copper* is obtained from the mines of *Great Britain* alone, as from all the rest of *Europe*.

(2) See the Vignette to this Chapter.

under a rather ludicrous notion, founded upon some visionary speculation, that if they persevere perpendicularly from the vertex, they will at last reach the top of another conical mass of ore, situate in an opposite direction; and which gradually swelling out towards its base, instead of diminishing from it, as in the present instance, will amply repay them for all their trouble. These hopes appear to be altogether illusory. However, much remains to be done, before the mine, even in its present state, can be exhausted. In working a mass of such magnitude, quantities of ore have been left in the sides and along the cavities of the mine: much, therefore, yet remains to be removed. The only difficulty will be, how to accomplish its removal, without causing a repetition of the catastrophe which gave birth to the present crater[1]. During the year before our arrival, a considerable portion of one of the sides gave way, and fell down, with a prodigious noise. This accident occurred upon a *Sunday*, when the workmen were absent from the mine; and, providentially, no lives were lost.

After a subterraneous expedition of four hours,

(1) See A, of the Vignette to this Chapter.

we returned again to the upper regions and to the light of the day; and were conducted, as before, to the office, where we changed our clothes. Afterwards, we went to the house of an officer who is called the *Mine Mechanician*, to see some drawings and plans of the works[2]. We then visited the *Pump-room*, and saw the machinery for draining the mine: it is all worked by water-wheels; yet there is no place better suited for the use of steam-engines. Mr. *Gahn* told us they had recently discovered a bed of *pit-coal*, but that they made no use of it. Formerly, when the mine was richer, they made no use of the *iron pyrites*, which is dug in considerable quantity; but now a work is established for roasting this mineral, and manufacturing *red-ochre* as a pigment. In this process, however, they are not so economical as they might be: the *sulphur*, which might be collected, is allowed to escape[3]. The process for the peroxidation of the *iron* is extremely simple: it is obtained from heaps of *decomposed sulphurets*, or,

Works above ground.

(2) Here we procured those Designs which have been engraved for this Volume.

(3) Assessor *Gahn* has since devised a very simple apparatus for obtaining the *sulphur*. See *Thomson's Travels in Sweden*, p. 219.

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as they are commonly called, *pyrites*, which have been long exposed to the action of the atmosphere. Of these, a lixivium is made; in which a yellow mud subsiding, affords the ochre, which is submitted to the action of heat in a long furnace; so contrived, as that the flame, drawn out to considerable length, may act upon the *iron oxide*, and thus convert it into red ochre.

Vitriol Manufactory.

At some distance from the mouth of the mine, an immense apparatus, visible over all the environs of *Fahlun*, for the manufacture of copperas or green-vitriol (*sulphate of iron*), is seen making a conspicuous figure among the other prodigious works of the place. This machine was constructed by Assessor *Gahn*, to whom all the *vitriolic water* of the mine, after the precipitation of the *copper*, exclusively belongs. The method is said to have been originally devised in *Germany*, for the concentration of weak salt-brines[1]. The principle of it is very simple, and shall be fully explained; although similar works, and perhaps upon a larger scale, may be found in our own country. The vast profit derived from the chemical changes which the water of the mine is made to undergo, after it has been

(1) See *Thompson's Travels in Sweden*, *p.* 219.

drained by means of pumps from the works, has been owing entirely to the advancement which chemistry has made of late years. First, *copper* is abundantly precipitated from it by means of *iron:* and this *wash-copper*, as it is called, of the *Fahlun mine*, has an appearance so extraordinary, that when it was shewn to the late Professor *Tennant*, he would not credit the fact of its being merely a precipitate of the native metal by means of *iron*. It consists of spheroïdal particles of *native copper*, of such perfect forms, that they seem like so many minute beads of metal which have undergone fusion. After the *copper* has been thus precipitated, the water, holding *sulphate of iron* in solution, is conveyed to the reservoir for the manufacture of *vitriol*. The base of the immense apparatus used for this operation is a wooden stage or platform, shaped like the roof of a house, sloping, on either side, towards wooden troughs, like those used to catch rain-water from the houses in *England*. Above this platform a double wooden rack, resembling those used for drying the harvest in *Norway* and *Sweden*[2], is made to extend the whole length of the sloping platform; which is

Remarkable form of Precipitated Copper.

Process for concentrating the lye.

(2) See a Vignette to the preceding Volume of these Travels, p. 208.

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covered with birch-boughs, thickly interwoven, and hanging over one another from the top to the bottom, so that a person walking between the two racks has a lofty wall of wicker-work on either side. The water is pumped into a trough upon the top of these racks, extending the whole length of them; and out of which it afterwards falls into a number of lesser channels, whose sides are notched, so as to let the water drop gently, in a continual shower, upon the wicker boughs. As it thus falls, presenting such a multiplicity of surfaces to the action of the atmosphere, it becomes of course liable to considerable evaporation; and the salt which it contains becomes, to a certain degree, concentrated before it reaches the bottom. An incrustation of *sulphate of lime* also forms upon the boughs, which thus become covered with *gypsum*, after the manner in which osteocolla is formed by the *carbonate of lime* near *Tivoli* and *Terni* in *Italy*. The concentrated fluid, containing *sulphate of iron*, at length reaches the bottom of the wicker-work, where it falls upon the sloping platform, which carries it off on either side into troughs, whence it is conveyed into a cistern: it is then raised by pumps again to the top of the machine; the same operation being repeated seven times,—the quantity of fluid

Subsequent crystallization of the salt.

always diminishing during every descent over the boughs; until at length it is in a fit state for the process of crystallization, which takes place in cisterns prepared for the purpose; but it is further accelerated by the last process, which consists in boiling the fluid, when it becomes so highly concentrated, that by placing rods about two feet in length into the liquor, they become studded with large and transparent green crystals of the *sulphate of iron*, which are then collected into barrels for exportation, and chiefly sent into *Russia*; as almost all the other markets in *Europe* are supplied with this commodity from *England*, at a lower rate, and of a better quality. During the last process of boiling the liquor, a small portion of *copper* is again precipitated, notwithstanding the precipitation of the metal which had been previously effected by means of *iron*, which is the perquisite of the Assessor; who always, as proprietor of the *vitriol-works*, obtains annually a small quantity of *wash-copper* from this manufacture, however carefully the process for the Company's precipitation of *wash-copper* may have been conducted.

Town of *Fahlun*.

Fahlun is a dirty town; and, except in the art of mining, is at least two centuries behind the rest of *Europe* in refinement. The inns are beyond description filthy; and the *Table d'Hôte*

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abominable. We dined there but once: the soup was full of hairs; and the smell of the meat was so offensive, that the guests were driven from table. The houses of the Assessors, and other officers of the mine, are, however, neat, and their owners polite and hospitable. We experienced the truth of this, in the highest degree, in the attentions and kindness shewn to us by Assessor *Gahn* and his son. The atmosphere of the town is almost intolerable to a stranger; yet we were assured by the inhabitants that it is wholesome, and that the people of the place live to a very advanced age—a statement that we could not easily credit, as there appeared to us hardly a single individual who could refrain from coughing and spitting; and the effect of the air of this place was felt by us very sensibly for some days after we left it. In fact, it is not only sulphureous fumes that are inhaled in the neighbourhood of the *Fahlun mine;* the exhalations are almost as various as the products of the mine: and were it not for the convincing proofs afforded by Assessor *Gahn,* who obtained *copper,* by analysis, from the beams of the houses in *Fahlun,* a traveller might be suspected of exaggeration who should affirm that the timbers of the buildings here, in the course of thirty years, are worth working for

Wood impregnated with Copper.

the quantity of this metal which they contain. One might almost fancy that the inhabitants, owing to their *copper-coloured* countenances, had become, in a certain degree, themselves *cupreous*; for they may be considered as actually eating, drinking, and breathing *copper*. They have *copper* above, below, and on every side of them; and smoking heaps of *iron pyrites* impregnate every gale with their suffocating vapours; as if the curses denounced against the disobedient *Israelites* had here been made the means of industry, and the instruments of wealth and happiness:—"THY HEAVEN THAT IS OVER THY HEAD SHALL BE BRASS, AND THE EARTH THAT IS UNDER THEE SHALL BE IRON. THE LORD SHALL MAKE THE RAIN OF THY LAND POWDER AND DUST: FROM HEAVEN SHALL IT COME DOWN UPON THEE."

Punishment of "Riding the Great Horse."

Close to the great crater of the mine there is an enormous wooden image of a horse, elevated twelve or fifteen feet from the ground. Upon this image the miners who have been guilty of misconduct are placed, by way of punishment: and hence, perhaps, originated the old adage among our ancestors, which contains a caution against "*riding the great horse.*" Besides *copper* and *vitriol*, the mine of *Fahlun* produces, in small quantities, both *silver* and *gold*. Its other

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minerals are many of them peculiar to the spot. We collected several; and a list is subjoined, for the advantage of other travellers, of all the substances for which this mine and its neighbourhood are remarkable[1].

Public Buildings.

Fahlun contains six thousand inhabitants. It has several public buildings; and among these the following may be mentioned as the principal:—

I. THE TOWN HALL.

II. TWO CHURCHES.—One for the inhabitants of the town, and the other for the parish at large. The town church is covered with *copper:* but a

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(1) 1. Dodecahedral crystals of garnet. *Engeström* says, "*Plus gros que le poing:*" but we obtained specimens that are double the size he mentions.
2. Octahedral crystals of magnetic iron-oxide.
3. Massive hardstone.
4. Native sulphate of iron; blue, green, and white.
5. Sulphuret of copper in primary crystals.
6. Precipitated native copper in spherical particles.
7. Argentiferous and auriferous sulphuret of lead, crystallised.
8. Pot-stone.
9. Mineral pitch.
10. Amianthus.
11. Luminary sulphuret of zinc.
12. Automalite, in octahedral crystals.
13. Fahlunite, crystallised in hexahedral prisms.
14. Pyrophysalite, a curious variety of *topaz*.
15. Gadolinite.
16. Leolite.

In this list it has not been deemed necessary to specify all the varieties of the common sulphurets of copper and iron. They are of course abundant.

more improper material can hardly be used; for the *sulphuric acid gas*, with which the air is powerfully impregnated, is rapidly dissolving this *copper* covering. The same thing happened at the parish church, where *copper* had also been employed for the roof: it was so speedily corroded, that its removal became necessary, and the copper was sold.

III. THE FREE SCHOOL.—This is open to all the children of the inhabitants. It contained, at this time, one hundred and thirty boys. These children are instructed in the *Hebrew*, *Greek*, and *Latin* languages: they are also taught history, geography, writing, and arithmetic. The mathematics are not taught; because from this school the children generally proceed to the *Gymnasium* at *Westerås*; whence they are afterwards removed to *Upsal*, to finish their education.

IV. THE LAZARETTO, or Hospital for wounded and invalid miners. This building, with several other public edifices, is situate near the mouth of the mine.

V. THE PUBLIC GRANARY.

About a mile and a quarter from *Fahlun* is *Gryksbo* Paper-manufactory. This work was begun in 1740: it affords employment to one master, six labourers, and four boys. There is

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also a cloth manufactory, under the direction of the same proprietor.

Geological features of *Dalecarlia.*

The geological structure of *Dalecarlia* has been described by *Hisinger;* whose imperfect and unsatisfactory account of it was compared by Professor *Thomson* with his own accurate and personal observations upon the spot[1]. The inference which the latter was thereby enabled to deduce, was this;—that the basis of *Dalecarlia* consists of primitive rocks; but that the greater part of the surface consists of *floetz* rocks, especially sandstone and limestone, containing the usual organic remains which distinguish *floetz limestone.* The porphyry, which sometimes alternates with these rocks, belongs also to the *floetz* formation[2]. The whole surface of the plain on which the *mine* is situate, is thick strewed with immense boulders of *granite, quartz, feldspar, hornblende,* and *chlorite-slate;* but not a single rock is to be seen *in sitû* in the whole plain, except two immense pyramids of *quartz* lying in the excavation at the great opening of the mine. The rock, however, which, after a good deal of laborious research, Professor *Thomson* found to environ *Fahlun,* is a particular kind

(1) *Thomson's* Trav. in *Sweden,* p. 215. *Lond.* 1813. (2) Ibid.

of *feldspar*, without *quartz* or *mica*, traversed by veins of *hornblende*, six feet in breadth[3]. He also observed that the rocks on the east side of the *mine*, at the distance of some miles, are *gneiss*; and, from the minerals which accompany the *copper-ore*, such as *actinolite*, *tremolite*, *chlorite*, and from other circumstances, he concluded that the mine follows a series of *veins* in *mica-slate*, the *vein-stones* appearing to him to consist chiefly of *quartz*[4]. In deference to his authority, it has been thought right to insert his observations. To us the appearance, as far as relates to the position of the ore, was somewhat different: it seemed to be deposited in detached *beds*, rather than in *veins*; as at *Paris Mountain* in *Anglesea*: and hence the spacious cavities of the chambers in which the ore is worked, resembling rather the caverns of a *salt-mine*, than the narrow galleries and passages worked in mines where *copper-ore* occurs in veins.

We left *Fahlun* on *Sunday*, *November* 10, for *Sålå*; and in the evening reached the small town of *Säter*, remarkable only for the cataracts near which it is situate. At a poor and small inn in this place they demanded the extravagant

Säter.

(3) *Thomson's* Trav. in *Sweden*, p. 220. *Lond.* 1813. (4) Ibid.

CHAP. X.

price of seven rix-dollars and a half for our night's lodging. The master of the house brought us a few minerals from the neighbouring mines, which we bought of him. The valuable *iron-mine* of *Bispberg* is at a small distance from *Säter:* it produces a rich granular and very friable *magnetic iron-oxide.* In the same mine is also found *molybdena.* There are also other mines in the neighbourhood of *Säter*[1]; as one of *silver* and *copper* in the parish of *Skedvi,* which produces a small quantity of *native silver;* distant about six *English* miles: also the *iron-mines* of *Garpenberg*[2] and *Grängesberg*[3], which are more remote.

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(1) A deserted mine, called *Silberberg,* near *Säter,* now inundated with water, was worked with great success, in the reign of *Queen Margaret,* for the *silver* found there. The ore in the eastern part of the mine contained from 28 to 30 grains of *gold* for every pound of *silver.* If the pits could be drained, this mine might again prove very profitable.

(2) At *Garpenberg,* the minerals consist of varieties of *sulphuretted copper; sulphuret of lead; sulphuret of zinc; fluate of lime; pot-stone,* containing *garnets; actinote; quartz, mica,* &c.

(3) At *Grängesberg* may be had the following minerals:

1. Black massive *magnetic iron-oxide.*
2. Granular ditto.
3. Micaceous *iron-oxide,* of various beautiful hues; blue, green, and yellow.
4. Octahedral crystals of *iron-oxide,* imbedded in massive *magnetic iron-ore.*
5. *Mineral pitch.*
6. *Comolite,* or *pot-stone.*
7. Hexagonal crystals of *lime-spar,* associated with *quartz* crystals.
8. *Feldspar* in *magnetic iron-oxide.*
9. Amianthus.
10. Decomposed *pyroxene,* commonly called "*green earth.*"
11. *Quartz, mica, calcareous spar,* &c. &c.

Leaving *Säter* the next day, we set out for *Avestad*, where the *copper* of the *Fahlun* mine is smelted. The axle of our carriage had been broken; and being obliged to leave it behind, under custody of our *Swedish* interpreter, we proceeded from *Säter* in hired carts. After we had left this dull and dirty town, we saw in the forest the bodies of some criminals exposed upon wheels near the road, after the manner of the country, as represented in p. 53 of this volume. Our first stage was to *Grådö*, by *Hedmora*. Corn, at this time (*Nov.* 11), was yet standing in the fields: the country appeared to be much cultivated, and very populous. *Hedmora* is a dirty village, but beautiful in its situation, upon the side of the *Dal*, which here spreads out its waters so as to resemble a fine lake. Several houses are stationed upon little sand-banks in the midst of the water. We crossed the river near *Grådö*, by a floating-bridge two hundred and eighty yards in length; not supported, like the floating-bridges in *Germany*, upon boats, but solely by the trunks of trees lashed together. Here, while we were changing horses, we heard the sound of musical instruments, as if a band were approaching; and presently two carts, bearing the performers, and filled with other men and women, decorated

Hedmora.

Curious Floating-Bridge.

Nuptial Festivities.

with ribands and a variety of gaudy trinkets, entered the yard of the inn. The appearance of these merry-makers was most grotesque. Each cart was conducted by a single horse, upon which sate the driver, more than "half-seas over," playing upon a fiddle, the most common musical instrument of *Norway* and *Sweden*. The carts were crammed with boors of both sexes, having their hats and clothes bedizened with nuptial favours, who, with the most ludicrous grimaces, some fiddling, others singing, were endeavouring to express their rude mirth by all sorts of gestures and noises. They had been to a wedding, celebrated at a great distance from *Grådö*, the day before, *Sunday*. We asked them to dance; and they consented, upon the condition of our treating each of them with a dram of their favourite beverage, *Swedish* brandy flavoured with aniseed. The whole party then prepared to exhibit their agility; and we expected to be gratified with a sight of the curious old provincial dance of the *Dalecarlians*. But they began with *Waltzes*; and after swinging each other in whirls, with a degree of violence that made an approach rather dangerous, ended in the graver measures and attitudes of the *Minuet*, which we found much better suited to the sort of doubtful equilibrium

maintained by most of them: with the *Minuets* the dance ended. Of such a nature were the scenes that afforded to some of the best masters of the *Flemish* School subjects for their pictures; nor were the objects very dissimilar which called from the pen of our matchless *Goldsmith* one of the most pleasing expressions of his humanity and benevolence[1].

Annual Return of *Dalecarlian* Peasants.

Soon after leaving *Grådö*, the country was again covered by forests, and our views bounded by the trees. In these woods we met several female *Dalecarlian* peasants, returning from their annual summer excursions, into the south of *Sweden*, for employment; but in their winter clothing, made of sheep's fleeces, with swathings of white linen round the head. We passed another floating-bridge about a quarter of a mile from *Avestad*, which was literally covered by *Dalarne* peasants, returning, as before mentioned, to pass the winter-season in their own country. The dress of the men is the same as it was in the time of *Gustavus Vasa*—a suit of what our *English* wags would call *dittos*, like the dress worn by Quakers; made wholly of

(1) "The poorer the guest, the better pleased he ever is with being treated: and as some men gaze with admiration at the colours of a tulip, or the wing of a butterfly, so I was by nature an admirer of happy human faces."—*Vicar of Wakefield*, Chap. I.

the purposes of the mint. But in all this the *Swedes* are far behind *Great Britain*[1]. The die, for example, is effected entirely by manual labour, without any aid of machinery: it is impressed by a blow given with a sledge-hammer; a boy being stationed at the work, to shift the coin, and supply the unstamped pieces of copper.

We were comfortably lodged at *Avestad;* the cleanly accommodations of the house, and the obliging behaviour of its owners, being alike praise-worthy: and when, on the following morning, we called for our bill, they said they had no demand to make; we might give them

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(1) This opinion is perhaps at variance with the accounts given of the method of smelting *copper* in *Sweden* by other writers: it is here stated as the author entered it into his Journal, at the time, and upon the spot. In *Great Britain* alone, as much *copper* is obtained from its mines as from all the rest of *Europe* put together; and more *iron* is raised, in one year, in the single Principality of *Wales*, than in the whole kingdom of *Sweden*. But the *copper-mine* of *Fahlun* is the property of many individuals; and there are various methods used in the operation of smelting the ore, as best suited to the circumstances of the different smelting-houses. Dr. *Thomson* considered the *Swedish* process as "very simple and economical, and as having the advantage over the methods employed to reduce the same kind of *copper-ore* in *Anglesey*." (See *Trav. in Sweden*, p. 222. The *ore* is first roasted, for the evaporation of the *sulphur;* then mixed with *charcoal*, and melted in a blast furnace. The produce of this furnace is afterwards roasted four or five times successively; then again melted, and the scoriæ separated. Afterwards, it once more undergoes fusion, and is cast into bars. (*Ibid.*)

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Character of the Swedish Peasants.

whatever little remuneration we thought proper. As the same circumstance often happened to us during our travels in *Sweden*, we have thought it right to mention it. Instances of exorbitant charges may sometimes occur; we had recently experienced an example of this nature in the behaviour of the persons who kept the small inn at *Säter*; but such cases are not common in *Sweden*, especially in those parts of the country north of *Stockholm*; neither is it the characteristic of a *Swede* to conduct himself with dishonesty in his dealings with strangers. At the same time, it is not intended to be maintained that rogues and thieves are never met with in this country, as in all others. Highway robberies have sometimes been committed; and we shall soon have occasion to notice proofs of this, which occurred in our journey to *Sala:* but such events are exceedingly rare, and may have been committed by foreigners employed among the multiplicity of persons engaged for labour in a mining district. Upon the whole, it is very different from what happens in *Russia*, where a stranger is obliged to be upon his guard against every one he meets, of whatsoever rank or condition; and where "*theft*" may be considered as a sort of standing order of the day.

Broddebo.

Upon the 12th of *November*, leaving *Avestad*[1], in our first stage to *Broddebo* we passed the boundary between *Dalecarlia* and *Westmania* or *Westmanland*. Here, in the forest, by the road side, we observed several heaps made with sticks and stones; upon which the natives, as they pass, cast either a stone, or a little earth, or the bough of a tree; deeming it an uncharitable act to omit this tribute, in their journeys to and fro. As this custom appeared closely allied to the pious practice in the Highlands of *Scotland*, of casting a stone upon the *cairn* of a deceased person, we, of course, concluded that these heaps were places of sepulture; which was so far correct, but they were not described to us as graves of very antient date. The peasants who accompanied us believed them to contain the bodies of banditti, who, according to their account, formerly plundered the merchants in this forest, when the *copper-ore* used to be carried, upon the backs of horses, from *Fahlun* to *Westerås*. As the whole band of robbers was gradually destroyed, so the individuals composing it were severally buried, where they fell, by the side of the public way. This is the

Custom in passing a Robber's Grave.

(1) At a quarter of a *Swedish* mile from *Avestad* are the brass-works of *Bjurforss*, which we did not stop to examine.

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tradition which the present inhabitants have concerning these heaps; not to call them *barrows*, because they have neither the magnitude nor the appearance of an antient *Celtic* mound. If they may be compared to any *tumuli* of antiquity, they rather resemble those heaps which the *Romans* raised by the side of their highways, as marks of distance. A little sketch which we made upon the spot will serve to give an idea of their appearance, and the manner in which they occur in the route.

We had a new proof of the surprising superiority of the public roads in *Sweden*, soon after we left *Broddebo*; a beautiful highway, as fine as the best-kept gravel-walks in any nobleman's

grounds, having been actually constructed through the waters of a lake. It was about four o'clock, P. M. when we arrived at *Sala*. The inn was full, but we hired lodgings in an adjoining house, and immediately set out for the famous *silver-mines*, which are distant about an *English* mile *west* of the town. At this late hour, a descent into them was described to us as rather hazardous; but our curiosity got the better of our fears, and we reasonably concluded that the want of day-light could be no serious obstacle in a subterraneous excursion. These mines have been so long worked, that there is no record of the time in which they were first opened. Every thing relating to the geological position of the great bed of ore has been most accurately and scientifically described by Professor *Thomson*[1]: it lies in a vein of *primitive limestone*, about half a mile in breadth, which occurs between *granite* and *gneiss*. In this vein lies the whole of the *Sala* excavations. The limestone itself is granular, with a shade of green, and possesses a good deal of beauty[2]. It is the common stone employed at *Sala* for building the walls of enclo-

Sala.

Mine of Salberg.

Nature of the Ore.

(1) See Trav. in *Sweden*, p. 235. *Lond.* 1815.
(2) Ibid.

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sures. The veins containing the *silver*-ore are of *galena*, or *sulphuret of lead*, containing other metallic *sulphurets*, as those of *zinc*, *iron*, and *copper*: they traverse the *limestone* from *north-west* or *south-east*[1]. The name of a *silver-mine* has therefore been bestowed upon a *lead-mine* at *Sala*, as it often happens where the veins of *argentiferous galena* are worth working for the *silver* they contain. The appearance of the richest of the *Sala silver-ore* is not unlike the *galena* of *Alston Moor* in *Cumberland*: it has the same grey aspect, but is more granular; that of *Alston Moor* having a fibrous structure, when it is amorphous and rich in *silver*. Few mines are so rich in beautiful and rare minerals. We arrived before it was too late to examine the heaps around it; and were soon convinced that an interesting collection might be formed from the discarded materials which lie near to its mouth. Formerly, the quantity of *silver* found here was much more considerable than it is now[2]. We descended into the mine, which is

(1) Professor *Thomson* also notices a vein of *basalt*, as a very remarkable and uncommon object in a primitive country, quite flat, with no remains of *floetz trap* in the neighbourhood. *Ibid.* p. 235.

(2) "In the year 1506, the annual produce was 32,266 marks: at present, I am told, the quantity extracted does not exceed 2000." *Thomson's Trav. in Sweden*, p. 235.

Descent into the *Salberg*.

called *Salberg*, by means of ladders; but they were in such excellent order, and so strong, that we entertained no apprehension of falling. The descent is easy; but it is very curious, and unlike any other mine we ever visited. It exhibited to us a succession of circular caverns, the floor of one constituting also the roof of the other; through which we passed downwards by a series of cylindrical apertures, each of which, like the chimney of the inferior chamber, conducted us into some new grotto of wonder and curiosity. At the depth only of forty fathoms, we arrived at one of the working-places. The ore seemed to be in small quantities; a thin vein, entirely of *galena*. Sometimes, but very rarely, the miners have met with *native silver*, and then only in very small portions, which have been immediately bought up for more than it was worth, owing to its extreme rarity, as a curiosity. Much greater rarities have also been occasionally discovered in the *Sala mine;* namely, *antimonial silver*, of which the Assessor shewed us some fine specimens; also *native antimony;* and the *native amalgam* of *silver* and *mercury*.[3]

(3) The minerals found in the *Salberg* mine, near *Sala*, are enumerated by *Engeström*, in his *Guide aux Mines*, p. 17. *Stockholm*, 1796. But substances have since his time been discovered there which have rendered this

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The *native amalgam* has not been observed there since the termination of the seventeenth century. At this time they were working the ore from cavities of the mine that had been once abandoned; which explains the reason why the veins appeared comparatively insignificant. The original excavations extend much lower,—to the depth of one hundred and fifty fathoms; but, owing to an accident which happened here, as at *Fahlun*, of the falling-in of a considerable part of the works, the lower chambers have been rendered inaccessible. The torches used

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this mine remarkable; and among these, in particular, the mineral called, from the place where it was first found, *Salite*. We shall insert a list of all of them.

1. *Native silver*.
2. *Antimonial silver*.
3. *Native amalgam*.
4. *Native antimony*, and *sulphuret of antimony*.
5. Many varieties of *sulphuret of lead*, crystallized and amorphous.
6. *Sulphuret of zinc*.
7. Arsenical and common *sulphurets of iron*.
8. Black granular *iron-oxide*.
9. *Salite*.
10. *Chlorite*, containing *garnet*; and *garnet* in *galena*.
11. *Asbestus* in all its varieties.
12. *Pot-stone*.
13. *Ophites*, and green *serpentine*.
14. *Mica*.
15. Many varieties of crystallized *carbonate of lime*.
16. *Trap*, and *basalt*.
17. *Quartz*, and red *hornstone*.
18. *Hornblende*; &c.

in all the *Swedish* mines consist of deal splinters, formed into fagots about as thick as a man's arm. Our guides took care to be provided with plenty of these, making a blazing illumination in the different chambers; and having supplied us with their mining implements, we fell to work, and were engaged in digging the ore from its native bed,—to the great mirth of the workmen, who were much amused with the waste of labour shewn in our awkward management of their tools. The great heat of the mine is always most oppressive to persons unaccustomed to such places; and of this the miners are themselves by no means insensible: but it was nothing to what we experienced in the Mine of *Fahlun*. We soon afterwards ascended, and procured a very interesting series of specimens upon the spot. Others were also afterwards brought to our lodgings. We have already inserted a list of them in a note. The Assessor of the mine shewed to us his own magnificent collection; containing not only all the minerals common or peculiar to *Sala*, but also many valuable specimens from foreign countries. He wished to dispose of the whole, for three hundred rix-dollars;—a trifling sum, compared with the real value.

Minerals.

The town of *Sala* has been described as

Town of Sala.

CHAP. X.

not inferior to *Fahlun* in size and elegance. Like all the *Swedish* towns, it has an open square, from which the streets run, with the utmost regularity, in different directions[1]. To us it appeared both small and dirty; which only shews how different the same place may appear to different travellers at different seasons. We partook of a meal at the table-d'hôte of the inn, where every thing was uncleanly and of bad quality: yet we had hunger for sauce, and therefore were not disposed to quarrel with our food. An apothecary, with well-meaning but overwhelming civility and volubility, sounded quite an alarum in our ears: he introduced to us an artist who carried about carved-work in ivory, executed with infinite minuteness of detail, and in the worst taste; from which engravings were made for sale, with portraits of the King and Queen. The arts are at a low ebb indeed, when works of this kind are in request! for their encouragement, they require the patronage of a *Turkish* Pasha, or a *Chinese* Mandarin.

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(1) *Thomson's* Travels, p. 233.

APPENDIX.

No. I.

THE following is a Copy of a Table printed in TRÖNÿEM; shewing the utmost Elevation and Depression of the Mercury in the *Barometer* and *Thermometer*, and the Declination of the *Magnetic Needle* from *North* to *West*, according to observations made at *Trönÿem*, in North Lat. 63°. 26′. 16″.; and Longitude from the Meridian of *Copenhagen*, 1°. 59′.; during twenty-two years, from 1762 to 1783 inclusive.—The first declination of the *needle* was observed in 1769.

N.B. The *Barometer*, whence these observations were deduced, is divided into *French* inches; each inch consisting of twelve lines. It was suspended in a room with a *north* aspect, 20½ ells above the level of the sea; and exposed to air, beneath a canopy, free from solar rays. The observations were made at noon.

The observations upon the *Thermometer*, during the winter months, were made in the forenoon;—during the summer months, in the afternoon;—and upon the scale of *Reaumur*.

BAROMETER.

UTMOST ELEVATION.				UTMOST DEPRESSION.		
Years.		Inches.	Lines.		Inches.	Lines.
1762.	December 30	28″	9½‴	January 13	26″	9½″
1763.	March 12	28	9	December 30	26	10½
1764.	February 23	28	9¾	January 28	26	9
1765.	February 2	28	8	March 25	26	11
1766.	November 7	28	8¼	March 27	27	0¾
1767.	December 25	28	8	October 26	26	6¾
1768.	Dec. 12, 14	28	8½	December 28	26	9¾
1769.	October 14	28	9¾	April 12	26	10¾
1770.	April 28	28	5½	February 18	26	4½
1771.	February 9, 17	28	6¾	October 14	26	8¼
1772.	March 8, 13	28	4¾	December 11	27	0
1773.	March 11	28	8½	February 24	26	8
1774.	December 7	28	11½	February 25	26	9¾
1775.	January 24	28	9	February 2	26	9
1776.	January 7	28	7	February 6	26	6½
1777.	February 8	28	7½	October 31	27	0½
1778.	March 11	28	8	February 23	26	10¼
1779.	March 7	28	7¾	December 23	27	0
1780.	December 19	28	8¾	October 20	26	7
1781.	January 9, 10	28	8¾	February 12	26	10¾
1782.	November 8	28	7	October 19	26	7¾
1783.	March 15	28	5¾	February 9	26	11½

THERMOMETER.

HIGHEST TEMPERATURE *Above* the Freezing Point.		LOWEST TEMPERATURE *Below* the Freezing Point.		Magnetic Needle's First Declination from North to West.	
Years.	Deg.		Deg.	Deg.	Min.
1762. July 17	17°	February 13	9½°	0 .	0
1763. July 10	20¾	December 27 . . .	15	0 .	0
1764. July 17	20	December 23 . . .	15	0 .	0
1765. July 30	19	January 21	16¼	0 .	0
1766. June 27, July 6 & 7 .	22½	December 24 . . .	14	0 .	0
1767. July 5	17	February 14	16½	0 .	0
1768. June 15	20	March 2	18¾	0 .	0
1769. July 23	20¾	December 29 . . .	15¼	15 .	25
1770. July 25	20¼	January 7	16	15 .	30
1771. June 24	19¼	January 11	19	15 .	40
1772. July 28	19	February 13	18½	16 .	6
1773. June 18	20	February 2	13½	16 .	40
1774. June 16, July 9 & 28,	17	January 12	18½	16 .	46
1775. August 9	21	January 25	12½	16 .	58
1776. July 14	23	January 14 & 26 .	14	17 .	30
1777. July 1 & 4	18½	February 16 & 18,	16	17 .	45
1778. July 21 & 22 . . .	21½	February 20	13¼	17 .	50
1779. August 7	21¼	Jan. 2, & Dec. 22 .	9¾	18 .	00
1780. June 20, July 19 .	18	January 20 & 30 .	11½	18 .	00
1781. June 18, Aug. 8 & 9,	19½	Jan 4, & Dec. 31 .	15	18 .	24
1782. July 30	19¼	March 23	11½	18 .	30
1783. July 13	21¾	December 28 . . .	19¼	18 .	32

(Signed) JOHN DAN. BERLIN.

No. II.

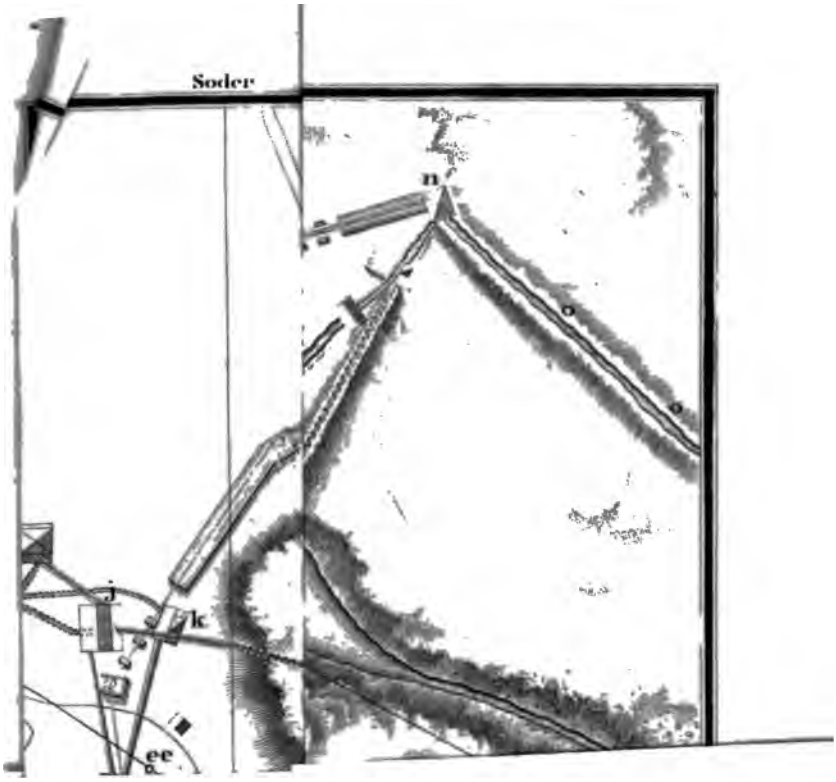
An Explanation, in the *Swedish* Language, of the Plan of the Great Mine at Fahlun in Dalecarlia was found among Dr. Clarke's Manuscripts.—The Editor is indebted to the kindness of Dr. Fiott Lee (with whose name the Reader is already acquainted, from the mention made of it in different parts of these Volumes) for a translation of that Paper.

PLAN

OF THE

Situation of the MINES *at the* GREAT COPPER-MOUNTAIN.

A. The Great Mine.
B. The Mine of Måns Nils (pronounced Mons).
C. The Long Mine.
D. The Mårdskinns Mine, or The mine of the skins of martens.
E. The Mine of John (*quære*, of King John).
F. The Mine of the Queen.
G. The Mine of Meyenholtz, or The mine of Expectation.
H. The Dråpp Mine. (The mine of murder, *cædes*, or manslaughter, or of misadventure; probably the last: a mine where expectations had been formed, and had failed.)
I. The Mine of Queen Louisa Ulrica.
K. Tunkarls Mine.
L. The Mine of Eric Mall.
M. The Mine of Fahlström.
N. The Mine of Kråk (pronounced Krok).
O. Fahlström's Ditch or Dyke.
P. The Experiment or attempt of Calmare. (I do not think that it is named after the town of Calmar, but after some person.)
Q. The Shaft of the Queen's Mine.
R. The Shaft of Rålamb (the name of a noble family in Sweden).


Soder
n
j
k
ee

x. Yard or Buildings for the Planks or Timber of the Crown (for the use of the machinery, or of the mine in general).
y. Public-house, or Tavern of the mine.
z. Lazaretto of the mine.
å. The House of the Ammunition (*quere*, of the gunpowder used in the mines).
ä. Blacksmith's Shop.
ö. The Room of the mine (probably for public business).
ae. The Public-office of the Master of the mine.
oe. The Out-houses of the Master of the mine (stables, barns, &c.)
au. The Old Timber-yard.
ou. The New ditto.
aa. The Machinery of Blankstöl.
bb. Wood plank or board.
cc. Rivulet or bason of water from the mine.
dd. Yard for charcoal.
ee. The Boundary of the Great Mine in the year 1703.
ff. The Boundary of the Mine of Queen Louisa Ulrica in 1794.

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